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NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED IN ANNEX I TO THE CONVENTION

ANNUAL INVENTORIES OF NATIONAL GREENHOUSE GAS DATA FOR 1996

Report on national greenhouse gas emissions inventory submissions from Annex I Parties for 1990 to 1996

Note by the secretariat

Addendum

TABLES OF INVENTORIES OF ANTHROPOGENIC EMISSIONS AND REMOVALS OF GREENHOUSE GASES FOR 1990 TO 1996 AND PROJECTIONS

CONTENTS

		Page
General notes		5
Explanatory notes		6
Table A.1.	Aggregate emissions and removals of all greenhouse gases (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1990	8

Page

Table A.2. Aggregate emissions and removals of all greenhouse gases (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1996 10

Table A.3. Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry, 1990 12

Table A.4. Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry, 1996 14

Table A.5. Anthropogenic CO_2 emissions from fuel combustion, 1990 ... 16

Table A.6. Anthropogenic CO_2 emissions from fuel combustion, 1996 ... 18

Table A.7. Anthropogenic CH_4 emissions by source category, 1990 20

Table A.8. Anthropogenic CH_4 emissions by source category, 1996 22

Table A.9. Anthropogenic N_2O emissions by source category, 1990 24

Table A.10. Anthropogenic N_2O emissions by source category, 1996 26

Table A.11. Emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, 1990 and 1996 28

Table A.12. Anthropogenic emissions of precursor gases and SO_2, 1990 and 1996 30

Table B.1. Aggregate emissions of all greenhouse gases (CO_2 equivalent), 1990-1996, excluding land-use change and forestry 32

Table B.2. Aggregate emissions of all greenhouse gases (CO_2 equivalent), 1990-1996, including land-use change and forestry 34

Table B.3. Total anthropogenic CO_2 emissions, excluding land-use change and forestry, 1990-1996 36

Table B.4. CO_2 emissions from fuel combustion, 1990-1996 38

Table B.5. CO_2 emissions from transport, 1990-1996 40

Page

Table B.6. CO_2 emissions from small combustion, 1990-1996 42

Table B.7. CO_2 emissions from industrial processes, 1990-1996 44

Table B.8. Anthropogenic CO_2 emissions and removals from land-use change and forestry, 1990-1996 46

Table B.9. Anthropogenic CO_2 emissions from international bunkers, 1990-1996 48

Table B.10. Total anthropogenic CH_4 emissions, 1990-1996 50

Table B.11. CH_4 fugitive fuel emissions, 1990-1996 52

Table B.12. CH_4 emissions from agriculture, 1990-1996 54

Table B.13. CH_4 emissions from waste, 1990-1996 56

Table B.14. Total anthropogenic N_2O emissions, 1990-1996 58

Table B.15. N_2O emissions from fuel combustion, 1990-1996 60

Table B.16. N_2O emissions from transport, 1990-1996 62

Table B.17. N_2O emissions from industrial processes, 1990-1996 64

Table B.18. N_2O emissions from agriculture, 1990-1996 66

Table C.1. Projected anthropogenic emissions of CO_2, excluding land-use change and forestry, until 2020 68

Table C.2. CO_2 projections in land-use change and forestry until 2020 ... 70

Table C.3. Projected anthropogenic emissions of CH_4 until 2020 72

Table C.4. Projected anthropogenic emissions of N_2O until 2020 74

Table C.5.1. Projected emissions of HFCs until 2020 76

Table C.5.2. Projected emissions of PFCs until 2020 78

Page

Table C.5.3. Projected emissions of SF_6 until 2020 80

Table C.6. Projected anthropogenic emissions of all greenhouse gases, excluding land-use change and forestry, until 2020 82

Table C.7. Projected anthropogenic net emissions of all greenhouse gases, including land-use change and forestry, until 2020 84

Table C.8. Projected CO_2 emissions from bunker fuels 86

Explanatory notes for tables C.1 to C.8. 88

General notes

This addendum provides numerical data on inventories and projections of greenhouse gases (GHGs) for 26 Annex I Parties which submitted an annual GHG emission inventory by 15 March 1999.[1] The inventory tables contain information as reported by the 26 Parties in their inventory submissions, while projection data for all 26 Parties are as reported in second national communications. It should be noted that this document only considers projections from those Parties which had submitted an annual inventory by the date mentioned above.[2]

The inventory tables provide information in a consistent and comparable manner for the years 1990-1996 for individual Annex I Parties, although varying in the degree of coverage in various tables. This is due to differences in the coverage of years in the annual inventory submissions of Parties, as well as to lack of information in some instances. For Parties which did not provide data for 1990 and subsequent years no trends in emissions are presented, as the secretariat did not use data from previous submissions (e.g. national communications) for reasons of consistency and comparability.

The tables provide information on a gas-by-gas basis for inventory data on carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), ozone precursors and sulphur dioxide (SO_2), and include information on international bunkers. Information on land-use change and forestry is included in aggregate estimates, and separately from other CO_2 estimates, recognizing the ongoing methodological work by the Intergovernmental Panel on Climate Change (IPCC) in this sector. To present information on HFCs, PFCs, SF_6 and aggregate greenhouse gases in a comparable manner the secretariat has used IPCC 1995 global warming potentials (GWPs) to present information in terms of CO_2 equivalents. The footnotes and notes to the tables should be treated as an integral part of the tables. Charts have been included for illustrative purposes.

Inventory data on the individual greenhouse gases are presented in tables A.3 to A.12. Tables A.1 and A.2 contain information on aggregate emissions of all greenhouse gases combined (expressed as CO_2 equivalent) for the major source categories. The trends in total greenhouse gases and in emissions of the various gases, and for the most important sectors for the years 1990 to 1996, are included in tables B.1 to B.18.

Numerical data on projected emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6, as well as total greenhouse gas emissions, are given in tables C.1 to C.8. The tables present the projected emissions and removals of GHGs for each Party, as well as information on the 1990 levels used as a basis for projections, the 1990 (or other base year) inventory figures, and the latest reported

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[1] Romania submitted its second national communication in February 1999 and requested it to be considered as its inventory submission for the purpose of this report.

[2] For complete information on projection data for Annex I Parties as reported in second national communications, please refer to document FCCC/CP/1998/11, Add.1 and 2.

inventory figures, generally 1996. The decrease or increase in projected emissions compared to the base year figures is presented as a percentage. The projections provided by Parties are not comparable. In some cases there are differences in the 1990 (or base year) emission figures for inventories and those used for projections. These differences are due to rounding, calibration of models, updating of inventories subsequent to the projections analysis, and the fact that some projections are only a subset of the information contained in the inventories of Parties. In six cases (BEL, CHE, DNK, FRA, NLD, SWE), such differences also reflect the use of adjustments.

It should be noted that figures may differ from those submitted to the secretariat as a result of rounding during data input and processing, corrections of typographical and calculation errors or omissions, and the presentation (for consistency and comparability) of subtotals and totals not provided in the annual inventory submissions, communications or other submissions. Some differences are also due to the fact that, in striving to ensure the consistency and comparability of results, the secretariat has had to convert some of the estimates reported so that they concur with the format of the current IPCC Guidelines for the reporting of greenhouse gas emissions.

Explanatory notes

Blanks in the tables signify an absence of quantitative information. The secretariat has chosen to leave the spaces blank in order not to complicate the reading of the tables. The figure "zero" appears in the table only when reported as such by Parties.

The IPCC 1996 Revised Guidelines for National Greenhouse Gas Inventories are referred to in this document as the IPCC Guidelines, and the revised guidelines for the preparation of national communications by Annex I Parties (FCCC/CP/1996/15/Add.1, decision 9/CP.2, annex) as the UNFCCC guidelines. Categories of sources of GHG emissions or their sinks corresponding to the IPCC Guidelines nomenclature are given in *italics*.

The following chemical symbols and abbreviations have been used:

CF_4	tetrafluoromethane
C_2F_6	hexafluoroethane
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
HFCs	hydrofluorocarbons
N_2O	nitrous oxide
NO_x	nitrogen oxides
NMVOCs	non-methane volatile organic compounds
PFCs	perfluorocarbons
SF_6	sulphur hexafluoride

The following units of weight have been used:

Gg	gigagram (10^9 grams)

The following other abbreviations have been used:

EIT	country that is undergoing the process of transition to a market economy
GHG	greenhouse gas
GWP	global warming potential
LUCF	land-use change and forestry

The following country abbreviations have been used:

Australia	AUS	Latvia	LVA
Austria	AUT	Monaco	MCO
Belgium	BEL	Netherlands	NLD
Canada	CAN	New Zealand	NZL
Czech Republic	CZE	Norway	NOR
Denmark	DNK	Poland	POL
Finland	FIN	Romania	ROM
France	FRA	Slovakia	SVK
Germany	DEU	Spain	ESP
Greece	GRC	Sweden	SWE
Hungary	HUN	Switzerland	CHE
Ireland	IRL	United Kingdom of Great Britain and Northern Ireland	GBR
Japan	JPN		
		United States of America	USA

Table A.1. **Aggregate emissions and removals of all greenhouse gases[a] (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1990 (Gigagrams and percentage of total by Party)**

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other[b]		Total (excluding land-use change and forestry)[c]
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	267 298	64.3	29 364	7.1	12 085	2.9	86 732	20.9	20 166	4.9	415 656
Austria	47 713	61.7	2 190	2.8	12 888	16.7	5 393	7.0	8 988	11.6	77 271
Belgium	108 641	78.0	1 289	0.9	13 156	9.4	11 524	8.3	4 668	3.4	139 276
Canada	428 930	71.7	34 980	5.8	52 370	8.8	60 970	10.2	22 223	3.7	598 099
Czech Republic[d]											
Denmark[d]											
Finland[e]	56 010	77.0	3 525	4.8	2 510	3.4	5 101	7.0	5 640	7.7	72 786
France	368 202	66.1	10 874	2.0	56 578	10.1	90 361	16.2	31 438	5.6	557 452
Germany	1 002 262	82.9	32 760	2.7	62 328	5.2	69 387	5.7	42 370	3.5	1 209 107
Greece[e]	79 612	75.7	928	0.9	9 955	9.5	12 069	11.5	2 671	2.5	105 235
Hungary[d]											
Ireland[d]											
Japan	1 061 822	85.8	3 491	0.3	128 669	10.4	20 552	1.7	22 913	1.9	1 237 446
Latvia[d]											
Monaco[f]	108	97.1							3	2.9	111
Netherlands[g]	159 904	73.7	4 175	1.9	20 516	9.4	17 487	8.1	13 776	6.3	217 107
New Zealand	22 652	31.2	1 136	1.6	3 015	4.2	42 580	58.7	3 116	4.3	72 499
Norway	27 707	50.3	2 298	4.2	13 630	24.8	4 932	9.0	6 497	11.8	55 064
Poland[d]											
Romania[h]	191 757	72.4	29 742	11.2	17 150	6.5	21 170	8.0	5 061	1.9	264 879
Slovakia[d]											
Spain[e]	215 441	71.5	14 836	4.9	20 955	7.0	39 126	13.0	11 073	3.7	301 431
Sweden[d]											
Switzerland[d]											
United Kingdom	565 797	74.7	37 524	5.0	58 302	7.7	55 069	7.3	41 159	5.4	757 851
United States of	4 970 916	82.9	220	3.7	166 916	2.8	421 400	7.0	218 060	3.6	5 998 204
Total	9 574 772	79.3	430	5.6	651 021	5.4	963 853	8.0	459 822	3.8	12 079 473

[a] Aggregate emissions of CO_2, CH_4 and N_2O, and HFCs, PFCs and SF_6, where reported (see table A.1.1), using 1995 IPCC global warming potentials.

[b] Includes *solvent use*, *waste*, *other* and CH_4 and N_2O from *land-use change and forestry*.

[c] Aggregate emissions of all greenhouse gases excluding CO_2 emissions from *land-use change and forestry*.

[d] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not or not fully provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in previous submissions (e.g. second national communications or inventory submissions) was made, no emission estimates are given in this table.

[e] The Party did not include any estimates from the *land-use change and forestry* sector in its national inventory.

[f] The Party provided estimates for *fuel combustion* and *waste* only, but indicated that emissions from the other sources were negligible.

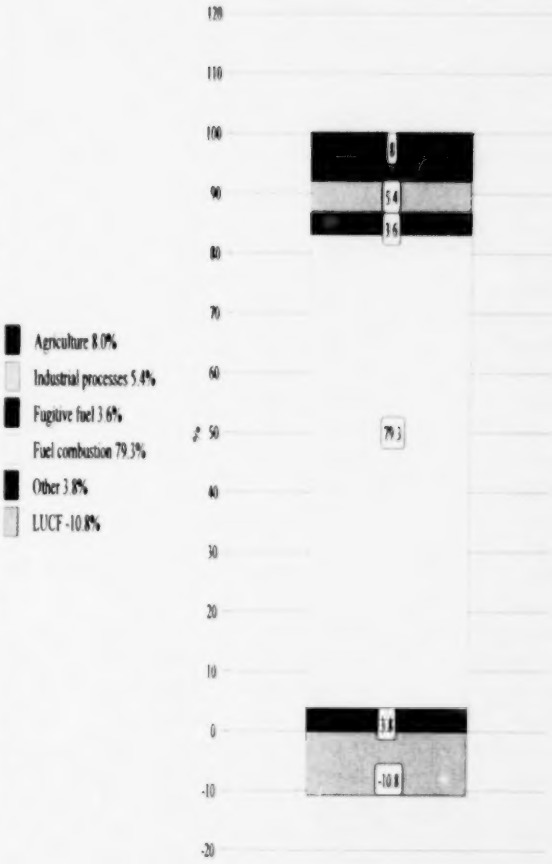
[g] The Party also provided CO_2 estimates adjusted for temperature correction, but non-adjusted estimates were used for the calculation of aggregate emissions for comparison and consistency purposes.

[h] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year.

Table A.1. (continued)

Land-use change and forestry[a] (CO_2) (Gg)	Total (including land-use change and forestry)[b] (Gg)	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry (%)	
58 873	474 529	14.2	AUS
- 13 300	63 971	-17.2	AUT
- 2 057	137 219	-1.5	BEL
- 44 000	554 099	-7.4	CAN
			CZE
			DNK
			FIN
- 30 316	527 136	-5.4	FRA
- 30 000	1 179 107	-2.5	DEU
			GRC
			HUN
			IRL
- 83 903	1 153 543	-6.8	JPN
			LVA
			MCO
- 1 500	215 607	-0.7	NLD
- 21 313	51 186	-29.4	NZL
- 9 590	45 474	-17.4	NOR
			POL
- 2 925	261 954	-1.1	ROM
			SVK
			ESP
			SWE
			CHE
20 207	778 057	2.7	GBR
-1 142 200	4 856 004	-19.0	USA
-1 302 024	10 297 886	-10.8	Total

Figure A.1.



Distribution of aggregate GHG emissions and removals by source/ sink categories - 1990

[a] CO_2 estimates for *land use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).

[b] Aggregate emissions of all greenhouse gases including CO_2 emissions from *land-use change and forestry*.

Table A.2. **Aggregate emissions and removals of all greenhouse gases[a] (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1996 (Gigagrams and percentage of total by Party)**

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other[b]		Total (excluding land-use change and forestry)[c]
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	302 128	67.8	29 707	6.7	9 169	2.1	84 255	18.9	20 580	4.6	445 840
Austria	52 012	63.6	2 818	3.4	12 628	15.5	5 366	6.6	8 799	10.8	81 723
Belgium	118 829	77.8	922	0.6	16 620	10.9	10 484	6.9	5 942	3.9	152 797
Canada	478 170	71.2	49 100	7.3	59 100	8.8	65 050	9.7	23 291	3.5	671 374
Czech Republic	131 519	85.4	6 390	4.1	4 023	2.6	9 188	6.0	2 868	1.9	153 989
Denmark[d]	72 631	78.0	747	0.8	1 826	2.0	16 111	17.3	1 801	1.9	93 117
Finland[e]	63 912	81.7	3 532	4.5	2 226	2.8	4 514	5.8	4 060	5.2	78 243
France	389 412	69.3	9 553	1.7	48 945	8.7	86 734	15.4	27 628	4.9	562 271
Germany	901 822	82.7	24 255	2.2	63 060	5.8	58 837	5.4	43 000	3.9	1 090 974
Greece[e]	86 294	75.2	1 069	0.9	12 800	11.2	11 917	10.4	2 742	2.4	114 789
Hungary	59 660	75.4	8 927	11.3	1 548	2.0	2 902	3.7	6 093	7.7	79 130
Ireland	34 246	57.3	256	0.4	2 550	4.3	19 632	32.9	3 037	5.1	59 722
Japan[f]	1 146 694	83.7	3 517	0.3	168 150	12.3	20 098	1.5	30 851	2.3	1 369 311
Latvia	11 125	61.6	394	2.2	185	1.0	5 727	31.7	627	3.5	18 064
Monaco[g]	141	96.6							5	3.2	145
Netherlands[d]	185 190	76.2	4 164	1.7	22 631	9.3	18 521	7.6	11 348	4.7	243 071
New Zealand	26 044	34.9	1 330	1.8	3 328	4.5	41 372	55.4	2 594	3.5	74 667
Norway	33 150	56.3	2 550	4.3	10 799	18.3	5 079	8.6	7 015	11.9	58 903
Poland	366 915	84.0	19 888	4.6	14 272	3.3	21 855	5.0	13 689	3.1	436 616
Romania[h]	125 731	76.7	17 791	10.8	6 104	3.7	9 611	5.9	4 789	2.9	164 026
Slovakia	43 593	78.6	2 499	4.5	3 779	6.8	3 994	7.2	1 594	2.9	55 468
Spain[e,i]	238 408	73.2	13 620	4.2	19 936	6.1	38 096	11.7	15 470	4.8	325 530
Sweden	62 386	85.8			4 579	6.3	4 228	5.8	1 530	2.1	72 723
Switzerland	42 109	78.1	336	0.6	2 813	5.2	5 685	10.5	2 983	5.5	53 924
United Kingdom	552 198	77.0	24 288	3.4	50 243	7.0	52 808	7.4	37 282	5.2	716 818
United States of	5 408 730	82.6	211 621	3.2	220 777	3.4	458 180	7.0	252 280	3.9	6 551 589
Total	10 933 048	79.7	439 275	3.2	762 091	5.6	1 060 245	7.7	531 895	3.9	13 724 822

[a] Aggregate emissions of CO_2, CH_4 and N_2O, and HFCs, PFCs and SF_6 where reported (see table A.11), using 1995 IPCC global warming potentials.

[b] Includes *solvent use*, *waste*, *other* and CH_4 and N_2O from *land-use change and forestry*.

[c] Aggregate emissions of all greenhouse gases excluding CO_2 emissions from *land-use change and forestry*.

[d] The Party also provided CO_2 estimates adjusted for temperature correction, and in the case of Denmark also for electricity exchange, but non-adjusted estimates were used for the calculation of aggregate emissions for comparison and consistency purposes.

[e] The Party did not include any estimates from the *land-use change and forestry* sector in its national inventory.

[f] As for 1996 no CH_4 and N_2O estimates were provided, 1995 data are given in this table.

[g] The Party provided estimates for *fuel combustion* and *waste* only, but indicated that emissions from the other sources were negligible.

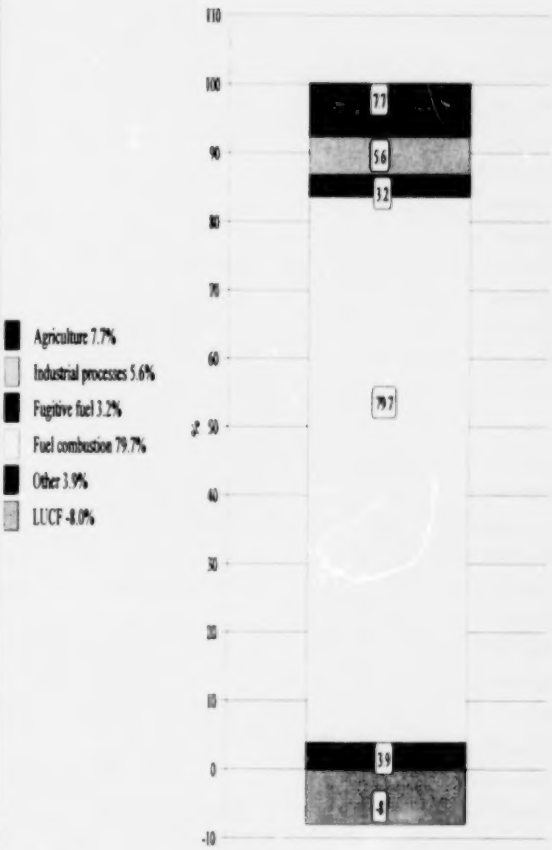
[h] The Party's last reported inventory data were for 1994, which are given in this table.

[i] As the Party did not provide estimates for 1996, estimates for 1995 are given in this table.

Table A.2 (continued)

Land-use change and forestry[a] (CO_2) (Gg)	Total (including Land-use change and Forestry)[b] (Gg)	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry (%)	
36 260	482 101	8.1	AUS
- 13 800	67 923	-16.9	AUT
- 2 057	150 740	-1.3	BEL
- 29 000	642 374	-4.3	CAN
- 4 479	149 510	-2.9	CZE
- 24	93 093	0.0	DNK
			FIN
- 41 249	521 022	-7.3	FRA
- 35 900	1 055 074	-3.3	DEU
			GRC
- 3 931	75 199	-5.0	HUN
- 6 497	53 225	-10.9	IRL
- 96 705	1 272 606	-7.1	JPN
- 14 320	3 744	-79.3	LVA
			MCO
- 1 700	241 371	-0.7	NLD
- 16 530	58 137	-22.1	NZL
- 17 611	41 292	-29.9	NOR
- 42 617	393 999	-9.8	POL
- 6 590	157 436	-4.0	ROM
- 5 281	50 187	-9.5	SVK
			ESP
- 32 296	40 427	-44.4	SWE
- 5 200	48 724	-9.6	CHE
11 299	728 118	1.6	GBR
- 764 683	5 786 906	-11.7	USA
-1 092 910	12 113 205	-8.0	Total

Figure A.2.



Distribution of aggregate GHG emissions and removals by source/ sink categories - 1996

[a] CO_2 estimates for *land-use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).

[b] Aggregate emissions of all greenhouse gases including CO_2 emissions from *land-use change and forestry*.

Table A.3. Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry,[a] 1990 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes		Waste	
	Fuel combustion[b]		Fugitive fuel					
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	262 623	95.4	6 066	2.2	6 655	2.4		
Austria	46 700	75.2	2 100	3.4	12 700	20.5		
Belgium	105 919	91.2			9 188	7.9	983	0.8
Canada	412 000	89.4	9 780	2.1	31 900	6.9	299	0.1
Czech Republic[c]								
Denmark[c]								
Finland	53 900	91	3 500	5.9	1 200	2		
France	360 186	92.2	4 306	1.1	20 948	5.4	3 198	0.8
Germany	986 487	97.3			27 668	2.7		
Greece	77 256	90.5			7 804	9.1	103	0.1
Hungary[c]								
Ireland[c]								
Japan	1 052 964	93.6			58 795	5.2	12 773	1.1
Latvia[c]								
Monaco	106	98.1					2	1.9
Netherlands[d]	157 530	97.6	420	0.3	1 880	1.2	1 520	0.9
New Zealand	22 240	88.1	615	2.4	2 386	9.5		
Norway	26 730	75.4	1 878	5.3	6 694	18.9	11	0
Poland[c]								
Romania[e]	185 575	95.3			9 244	4.7	7	0
Slovakia[c]								
Spain[f]	207 592	91.7	414	0.2	17 690	7.8		
Sweden[c]								
Switzerland[c]								
United Kingdom	558 774	95.8	9 815	1.7	13 916	2.4	660	0.1
United States of America	4 881 500	98.7	7 300	0.1	54 500	1.1		
Total	9 398 082	96.3	46 194	0.5	283 167	2.9	19 556	0.2

[a] In light of the ongoing work on methodological issues related to the estimation and reporting of emissions and removals from the *land-use change and forestry* sector, emissions from this sector were excluded from this table for comparison and consistency purposes. They are however presented in tables A.1 and B.8.

[b] For further details on *fuel combustion* see table A.5.

[c] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no emission estimates are given in this table.

[d] Party also provided estimates adjusted for temperature correction, but non-adjusted estimates were included in this table for comparison and consistency purposes.

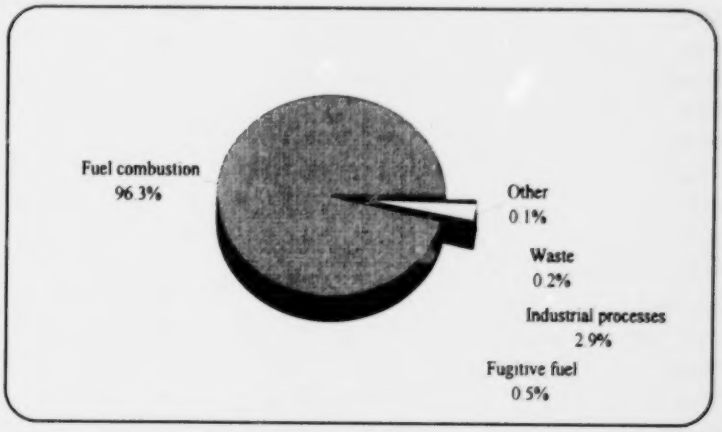
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year.

[f] Estimates of 18,725 Gg from *agriculture* and 2,161Gg from *waste* were reported but not included in the Party's national total. On the other hand, the Party included an estimate of 727 Gg under *Other* (corresponding to 0.3% of the Party's total CO_2) in its national total.

Table A.3. (continued)

Other [a]		Total	
(Gg)	%	(Gg)	
		275 344	AUS
500	0.8	62 100	AUT
		116 090	BEL
6 920	1.5	460 899	CAN
			CZE
			DNK
		59 200	FIN
2 072	0.5	390 708	FRA
		1 014 155	DEU
186	0.2	85 349	GRC
			HUN
			IRL
		1 124 532	JPN
			LVA
		108	MCO
10	0.0	161 360	NLD
		25 241	NZL
144	0.4	35 457	NOR
			POL
		194 826	ROM
			SVK
		226 423	ESP
			SWE
			CHE
		583 165	GBR
		4 943 300	USA
9 831	0.1	9 758 258	Total

Figure A.3.



Distribution of CO_2 emissions by source categories - 1990

[a] Includes *solvent use* and *agriculture*.

Table A.4. Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry,[a] 1996 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes		Waste	
	Fuel combustion[b]		Fugitive fuel					
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	295 620	95.9	5 670	1.8	7 110	2.3	14	0.0
Austria	50 800	78.2	2 700	4.2	10 900	16.8	100	0.2
Belgium	116 069	90.3			11 287	8.8	1 190	0.9
Canada	454 000	89.3	13 400	2.6	39 200	7.7	324	0.1
Czech Republic	129 516	97.7	76	0.1	2 479	1.9	357	0.3
Denmark[c]	71 406	97.5	378	0.5	1 388	1.9	0	0.0
Finland	61 300	92.4	3 500	5.3	840	1.3		
France	379 711	93.4	4 005	1.0	17 313	4.3	3 791	0.9
Germany	885 000	97.3			25 000	2.7		
Greece	83 582	90.9			8 111	8.8	106	0.1
Hungary	58 174	96.2			1 548	2.6	754	1.2
Ireland	33 027	94.9			1 738	5.0	54	0.2
Japan	1 152 134	93.3			61 093	4.9	21 677	1.8
Latvia	10 875	98.3			185	1.7		
Monaco	138	97.5					4	2.5
Netherlands[c]	181 730	98.3	140	0.1	1 740	0.9	1 250	0.7
New Zealand	25 594	88.2	672	2.3	2 742	9.5		
Norway	31 779	77.4	1 983	4.8	7 163	17.4	6	0.0
Poland	363 499	97.6	94	0.0	8 938	2.4		
Romania[d]	121 327	96.6			4 263	3.4	7	0
Slovakia	43 104	93.5	0	0.0	3 001	6.5	0	0.0
Spain[e]	229 675	92.7	418	0.2	17 278	7.0		
Sweden	59 390	93.7			3 711	5.9		
Switzerland	41 300	91.8	70	0.2	2 200	4.9	1 400	3.1
United Kingdom	543 880	96.5	7 488	1.3	11 703	2.1	378	0.1
United States of America	5 317 843	98.6	12 730	0.2	63 309	1.2		
Total	10 740 473	96.4	53 323	0.5	314 240	2.8	31 411	0.3

[a] In light of the ongoing work on methodological issues related to the estimation and reporting of emissions and removals from the *land-use change and forestry* sector, emissions from this sector were excluded from this table for comparison and consistency purposes. They are however presented in tables A.2 and B.8.

[b] For further details on *fuel combustion* see table A.6.

[c] Party also provided estimates adjusted for temperature correction, and in the case of Denmark also for electricity exchange, but non-adjusted estimates were included in this table for comparison and consistency purposes.

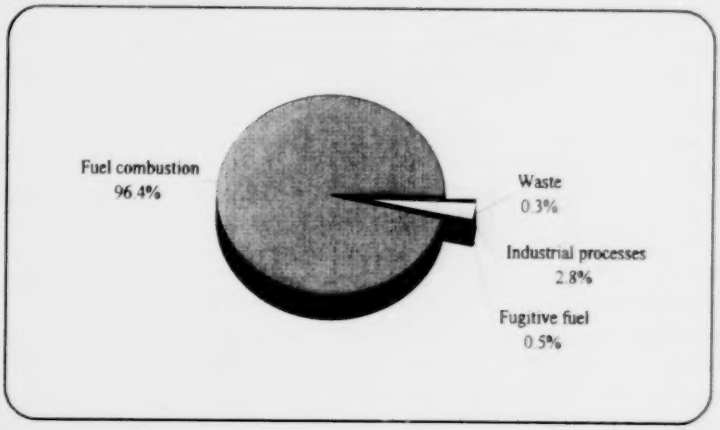
[d] The Party's last reported inventory data were for 1994, which are given in this table.

[e] As the Party did not provide estimates for 1996, estimates for 1995 are given in this table. Estimates of 17,386 Gg from *agriculture* and 2,623 Gg from *waste* were reported but not included in the Party's national total. On the other hand, the Party included an estimate of 332 Gg under *Other* (corresponding to 0.1% of the Party's total CO_2) in its national total.

Table A.4. (continued)

Other [a]		Total	
(Gg)	%	(Gg)	
		308 413	AUS
400	0.6	65 000	AUT
		128 546	BEL
1 650	0.3	508 574	CAN
109	0.1	132 538	CZE
64	0.1	73 236	DNK
		66 340	FIN
1 847	0.5	406 666	FRA
		910 000	DEU
180	0.2	91 978	GRC
		60 475	HUN
		34 819	IRL
		1 234 904	JPN
		11 065	LVA
		141	MCO
10	0.0	184 870	NLD
		29 008	NZL
142	0.3	41 073	NOR
		372 530	POL
		125 597	ROM
0	0.0	46 105	SVK
		247 703	ESP
249	0.4	63 350	SWE
		44 970	CHE
		563 450	GBR
		5 393 883	USA
4 651	0.0	11 145 236	Total

Figure A.4.



Distribution of CO_2 emissions by source categories - 1996

[a] Includes *solvent use* and *agriculture*.

Table A.5. Anthropogenic CO_2 emissions from fuel combustion, 1990 (Gigagrams and percentage of total by Party)

	Energy industries		Industry		Small combustion[a]		Transport	
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	141 807	54.0	47 363	18.0	12 178	4.6	59 596	22.7
Austria	12 500	26.8	7 400	15.8	12 900	27.6	13 900	29.8
Belgium	28 140	26.6	31 027	29.3	26 262	24.8	19 964	18.8
Canada	133 000	32.3	62 300	15.1	69 900	17.0	147 000	35.7
Czech Republic[b]								
Denmark[b]								
Finland	18 400	34.1	14 100	26.2	7 300	13.5	11 900	22.1
France	65 495	18.2	77 747	21.6	93 833	26.1	123 111	34.2
Germany	416 118	42.2	193 104	19.6	203 314	20.6	162 231	16.4
Greece	43 658	56.5	9 820	12.7	8 168	10.6	15 170	19.6
Hungary[b]								
Ireland[b]								
Japan	339 065	32.2	339 378	32.2	158 298	15.0	207 431	19.7
Latvia[b]								
Monaco	37	35.0			29	27.8	39	37.2
Netherlands[c]	51 040	32.4	41 400	26.3	35 400	22.5	28 560	18.1
New Zealand	6 040	27.2	4 710	21.2	2 733	12.3	8 645	38.9
Norway	7 347	27.5	3 070	11.5	2 428	9.1	13 885	51.9
Poland[b]								
Romania[d]	89 214	48.1	56 678	30.5	28 274	15.2	7 893	4.3
Slovakia[b]								
Spain	75 184	36.2	47 971	23.1	26 177	12.6	58 260	28.1
Sweden[b]								
Switzerland[b]								
United Kingdom	230 775	41.3	94 627	16.9	112 207	20.1	115 901	20.7
United States of America[e]	1 748 400	35.8	1 051 400	21.5	549 200	11.3	1 499 100	30.7
Total	3 406 220	36.2	2 082 095	22.2	1 348 601	14.3	2 492 586	26.5

[a] Includes emissions from the source/sink categories: *commercial/institutional*, *residential*, and *agricultural/forestry/fishing*.

[b] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no emission estimates are given in this table.

[c] Party also provided estimates adjusted for temperature correction, but non-adjusted estimates were included in this table for comparison and consistency purposes.

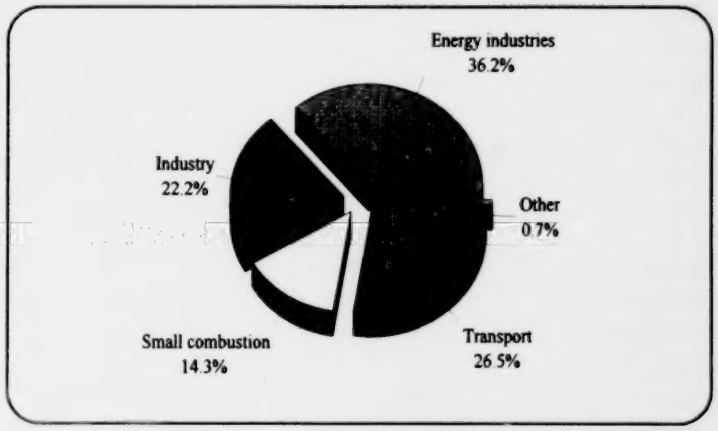
[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year.

[e] *Fuel combustion* emissions from territories of the United States of America are included under *other*.

Table A.5. (continued)

Other[a]		Total	
(Gg)	%	(Gg)	
1 680	0.6	262 623	AUS
		46 700	AUT
526	0.5	105 919	BEL
0	0.0	412 000	CAN
			CZE
			DNK
2 200	4.1	53 900	FIN
		360 186	FRA
11 720	1.2	986 487	DEU
440	0.6	77 256	GRC
			HUN
			IRL
8 792	0.8	1 052 964	JPN
			LVA
		106	MCO
1 100	0.7	157 530	NLD
113	0.5	22 240	NZL
		26 730	NOR
			POL
3 517	1.9	185 575	ROM
			SVK
		207 592	ESP
			SWE
			CHE
5 264	0.9	558 774	GBR
33 400	0.7	4 881 500	USA
68 751	0.7	9 398 082	Total

Figure A.5.



Distribution of CO_2 fuel combustion emissions by source categories - 1990

[a] Includes emissions from all other non-specified *fuel combustion* except from the combustion of *biomass*. Includes emissions from military fuel use.

Table A.6. Anthropogenic CO_2 emissions from fuel combustion, 1996 (Gigagrams and percentage of total by Party)

	Energy industries		Industry		Small combustion[a]		Transport	
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	163 335	55.3	49 190	16.6	13 727	4.6	67 240	22.7
Austria	13 000	25.6	7 400	14.6	14 700	28.9	15 700	30.9
Belgium	29 195	25.2	28 681	24.7	35 548	30.6	22 389	19.3
Canada	140 000	30.8	66 900	14.7	79 900	17.6	167 000	36.8
Czech Republic	57 818	44.6	43 867	33.9	17 936	13.8	9 896	7.6
Denmark[b]	44 020	61.6	6 312	8.8	9 273	13.0	11 748	16.5
Finland	27 400	44.7	13 500	22.0	7 600	12.4	11 000	17.9
France	59 537	15.7	80 606	21.2	104 199	27.4	135 368	35.7
Germany	361 000	40.8	140 000	15.8	206 000	23.3	173 000	19.5
Greece	45 541	54.5	10 653	12.7	10 039	12.0	17 253	20.6
Hungary	26 610	45.7	6 199	10.7	18 091	31.1	6 612	11.4
Ireland	14 087	42.7	3 446	10.4	8 956	27.1	6 538	19.8
Japan	360 530	31.3	352 607	30.6	173 239	15.0	248 576	21.6
Latvia	4 422	40.7	742	6.8	2 289	21.0	1 612	14.8
Monaco	51	37.2			40	28.9	47	33.9
Netherlands[b]	56 340	31.0	42 680	23.5	45 880	25.2	33 370	18.4
New Zealand	6 271	24.5	5 646	22.1	2 624	10.3	10 972	42.9
Norway	9 671	30.4	4 085	12.9	2 514	7.9	15 508	48.8
Poland	195 988	53.9	74 683	20.5	64 106	17.6	28 098	7.7
Romania[c]	113 583	93.6					7 744	6.4
Slovakia	38 940	90.3					4 164	9.7
Spain[d]	84 330	36.7	52 968	23.1	28 110	12.2	64 268	28.0
Sweden	14 295	24.1	14 400	24.2	11 015	18.5	19 573	33.0
Switzerland	950	2.3	5 250	12.7	19 300	46.7	14 910	36.1
United Kingdom	199 698	36.7	91 742	16.9	127 481	23.4	121 882	22.4
United States of America[e]	1 895 156	35.6	1 125 708	21.2	626 200	11.8	1 631 090	30.7
Total	3 961 767	36.9	2 227 266	20.7	1 628 766	15.2	2 845 558	26.5

[a] Includes emissions from the source/sink categories: *commercial/institutional*, *residential*, and *agricultural/forestry/fishing*.

[b] Party also provided estimates adjusted for temperature correction, and in the case of Denmark also for electricity exchange, but non-adjusted estimates were included in this table for comparison and consistency purposes.

[c] The Party's last reported inventory data were for 1994, which are given in this table. The Party only reported aggregate emissions from stationary sources for 1994. This estimate is included under *energy industries* in this table.

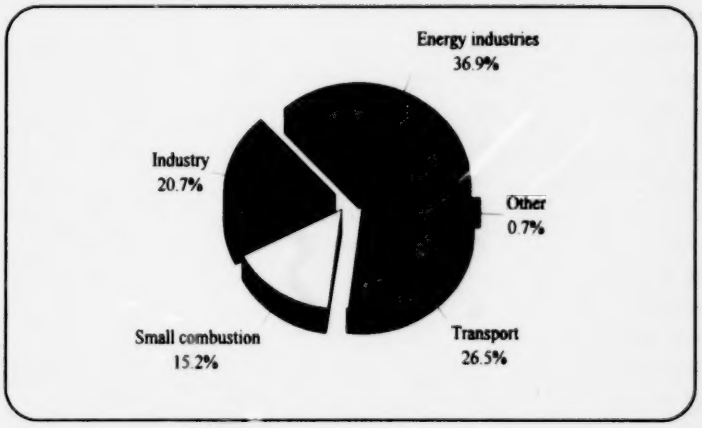
[d] As the Party did not provide estimates for 1996, estimates for 1995 are given in this table.

[e] *Fuel combustion* emissions from territories of the United States of America are included under *other*.

Table A.6. (continued)

Other[a]		Total	
(Gg)	%	(Gg)	
2 128	0.7	295 620	AUS
		50 800	AUT
256	0 2	116 069	BEL
0	0.0	454 000	CAN
0	0.0	129 516	CZE
53	0.1	71 406	DNK
1 900	3.1	61 300	FIN
		379 711	FRA
5 000	0.6	885 000	DEU
96	0.1	83 582	GRC
663	1.1	58 174	HUN
		33 027	IRL
17 183	1.5	1 152 134	JPN
1 810	16.6	10 875	LVA
		138	MCO
3 460	1.9	181 730	NLD
81	0.3	25 594	NZL
		31 779	NOR
625	0.2	363 499	POL
		121 327	ROM
		43 104	SVK
		229 675	ESP
107	0.2	59 390	SWE
930	2.3	41 300	CHE
3 077	0.6	543 880	GBR
39 730	0.7	5 317 843	USA
77 098	0.7	10 740 473	Total

Figure A.6.



Distribution of CO_2 fuel combustion emissions by source categories - 1996

[a] Includes emissions from all other non-specified *fuel combustion* except from the combustion of *biomass*. Includes emissions from military fuel use.

Table A.7. Anthropogenic CH_4 emissions by source category, 1990 (Gigagrams and percentage of total by Party)

	Energy				Agriculture				Waste	
	Fuel combustion		Fugitive fuel		Livestock[a]		Other[b]			
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	109	2.0	1 108	20.7	2 869	53.7	331	6.2	704	13.2
Austria	20	3.4	4	0.7	173	29.4	36	6.1	227	38.7
Belgium	16	2.4	53	8.4	374	58.9	15	2.3	174	27.4
Canada	260	7.9	1 200	36.4	950	28.8	0	0.0	850	25.8
Czech Republic[c]										
Denmark[c]										
Finland	19	5.4	1	0.3	94	26.2			240	67.0
France	164	5.4	311	10.3	1 599	53.0	32	1.0	815	27.0
Germany	205	3.7	1 560	28.3	1 887	34.2			1 870	33.9
Greece	13	3.0	44	10.1	164	37.4	107	24.5	109	24.9
Hungary[c]										
Ireland[c]										
Japan	96	6.2	166	10.7	464	30.0	378	24.4	394	25.5
Latvia[c]										
Monaco[d]	0	55.8							0	44.2
Netherlands	35	2.7	179	13.8	505	39.1			568	44.0
New Zealand	11	0.6	25	1.5	1 492	89.2	0	0.0	141	8.4
Norway	17	3.8	20	4.5	102	23.1			302	68.3
Poland[c]										
Romania[e]	50	2.1	1 416	60.1	600	25.5	34	1.5	241	10.2
Slovakia[c]										
Spain	76	3.5	687	31.5	810	37.1	115	5.3	491	22.5
Sweden[c]										
Switzerland[c]										
United Kingdom	105	2.4	1 319	29.7	1 077	24.3	13	0.3	1 923	43.3
United States of	656	2.2	10 172	34.3	8 300	28.0	400	1.4	10 000	33.8
Total	1 850	2.9	18 266	29.1	21 459	34.2	1 460	2.3	19 051	30.4

[a] Includes source/sink categories: *enteric fermentation* and *manure management*.

[b] Includes source/sink categories: *rice cultivation, agricultural soils, prescribed burning of savannas* and *field burning of agricultural residues*.

[c] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no emission estimates are given in this table.

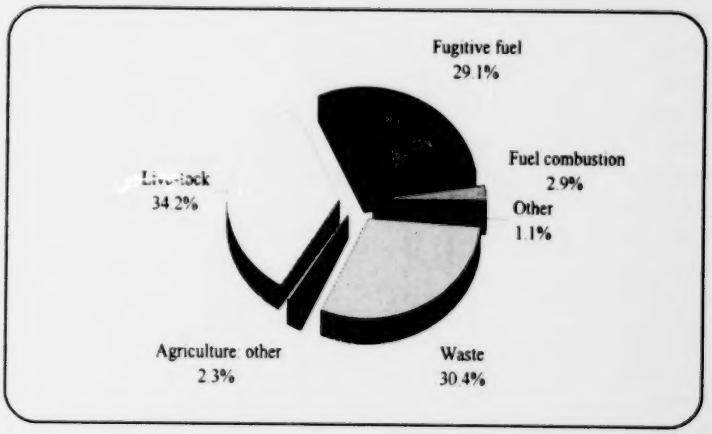
[d] Estimates reported were approximately zero (total 1990: 0.05 Gg)

[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year.

Table A.7. **(continued)**

Other[a]		Total	
(Gg)	%	(Gg)	
223	4.2	5 345	AUS
127	21.6	587	AUT
4	0.6	634	BEL
70	2.1	3 300	CAN
			CZE
			DNK
4	1.1	358	FIN
97	3.2	3 018	FRA
0	0.0	5 522	DEU
		437	GRC
			HUN
			IRL
51	3.3	1 549	JPN
			LVA
		0	MCO
3	0.3	1 292	NLD
4	0.2	1 673	NZL
1	0.2	442	NOR
			POL
16	0.7	2 357	ROM
			SVK
2	0.1	2 181	ESP
			SWE
			CHE
1	0.0	4 438	GBR
100	0.3	29 628	USA
703	1.1	62 761	Total

Figure A.7.



Distribution of CH_4 emissions by source categories - 1990

[a] Includes *industrial processes, solvent use* and *land-use change and forestry*.

Table A.8. **Anthropogenic CH_4 emissions by source category, 1996 (Gigagrams and percentage of total by Party)**

	Energy				Agriculture				Waste	
	Fuel combustion		Fugitive fuel		Livestock[a]		Other[b]			
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	112	2.1	1 143	21.5	2 784	52.4	312	5.9	794	15
Austria	16	2.9	6	1.0	171	29.8	36	6.2	218	38.0
Belgium	15	2.5	34	5.7	340	57.6	14	2.4	186	31.5
Canada	280	7.0	1 700	42.5	1 070	26.8	0	0.0	940	23.5
Czech Republic	34	5.9	301	52.5	134	23.4	0	0.0	97	17.0
Denmark	13	3.1	17	4.1	321	75.5	0	0.0	73	17.2
Finland	23	8.3	2	0.6	82	30.5			160	59.3
France	178	6.6	263	9.7	1 533	56.5	33	1.2	607	22.4
Germany	122	2.6	1 155	24.4	1 547	32.7			1 900	40.2
Greece	14	3.1	51	11.1	170	37.2	110	24.0	113	24.6
Hungary	20	2.5	425	52.3	115	14.1	1	0.2	254	31.2
Ireland	4	0.5	12	1.5	625	78.2	29	3.7	102	12.8
Japan[c]	56	3.8	167	11.3	447	30.1	385	26.0	374	25.2
Latvia	6	6.7	19	20.2	42	45.0			26	28.1
Monaco[d]	0	61.7							0	38.3
Netherlands	39	3.3	192	16.3	476	40.4			466	39.5
New Zealand	11	0.7	31	2.0	1 431	89.8	0	0.0	114	7.2
Norway	21	4.3	27	5.6	109	22.5			327	67.4
Poland	56	2.5	943	41.9	590	26.2	1	0.1	652	28.9
Romania[e]	24	1.6	847	58.0	357	24.5			228	15.6
Slovakia	10	3.2	119	37.9	109	34.7			69	22.0
Spain[f]	72	3.0	629	26.5	848	35.8	102	4.3	719	30.3
Sweden	38	12.7			198	66.7			61	20.5
Switzerland	8	3.3	13	5.6	145	63.7	- 3	-1.3	66	28.7
United Kingdom	94	2.5	800	21.6	1 064	28.7	0	0.0	1 754	47.3
United States of	667	2.1	9 471	30.4	8 900	28.6	400	1.3	11 600	37.3
Total	1 932	2.8	18 366	27.1	23 607	34.8	1 420	2.1	21 898	32.3

[a] Includes source/sink categories: *enteric fermentation* and *manure management*.

[b] Includes source/sink categories: *rice cultivation, agricultural soils, prescribed burning of savannas* and *field burning of agricultural residues*.

[c] As the Party did not provide CH_4 estimates for 1996, estimates for 1995 are given in this table.

[d] Estimates reported were approximately zero (total 1996: 0.06 Gg).

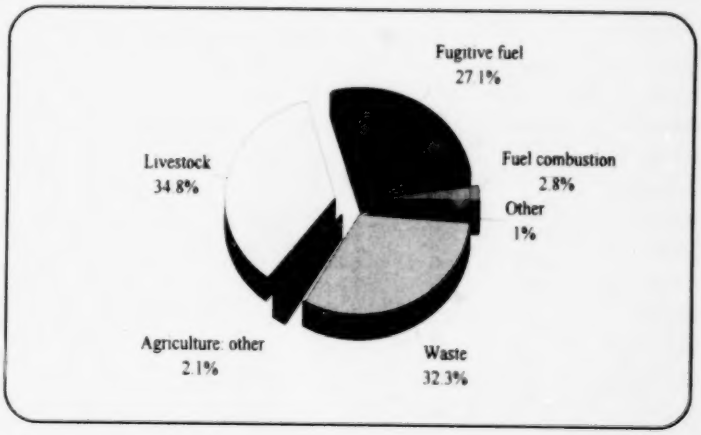
[e] The Party's last reported inventory data were for 1994, which are given in this table. The Party provided an aggregate estimate for agriculture which is included under *livestock* in this table.

[f] As the Party did not provide estimates for 1996, estimates for 1995 are given in this table.

Table A.8. (continued)

Other[a]		Total	
(Gg)	%	(Gg)	
162	3.0	5 308	AUS
127	22.1	574	AUT
2	0.4	591	BEL
40	1.0	4 000	CAN
7	1.3	573	CZE
0	0.0	425	DNK
4	1.4	270	FIN
98	3.6	2 712	FRA
0	0.0	4 724	DEU
		457	GRC
0	0.0	813	HUN
27	3.4	800	IRL
54	3.6	1 482	JPN
		93	LVA
		0	MCO
5	0.4	1 179	NLD
6	0.4	1 593	NZL
1	0.2	485	NOR
11	0.5	2 252	POL
5	0.3	1 461	ROM
7	2.1	314	SVK
2	0.1	2 370	ESP
		297	SWE
0	0.2	228	CHE
1	0.0	3 712	GBR
100	0.3	31 138	USA
658	1.0	67 850	Total

Figure A.8.



Distribution of CH_4 emissions by source categories - 1996

[a] Includes *industrial processes, solvent use* and *land-use change and forestry*.

Table A.9. **Anthropogenic N_2O emissions by source category, 1990 (Gigagrams and percentage of total by Party)**

	Energy				Industrial processes		Agriculture		Waste	
	Transport		Other[a]							
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	5.2	6.9	2.7	3.6	1.6	2.2	63.0	84.1		
Austria	1.0	10.9	0.9	9.8	0.6	6.5	3.3	35.9		
Belgium	0.9	3.0	7.4	23.9	11.5	37.3	10.9	35.4	0.1	0.3
Canada	29.0	15.3	8.0	4.2	37.0	19.5	110.0	57.9	3.0	1.6
Czech Republic[b]										
Denmark[b]										
Finland	1.7	9.1	3.8	20.4	3.0	16.1	10.1	54.3		
France	4.0	1.3	10.9	3.5	90.0	29.2	181.1	58.7	3.1	1.0
Germany	11.0	4.9	26.0	11.5	83.0	36.7	96.0	42.5	4.0	1.8
Greece	0.6	2.0	6.1	20.4	2.3	7.7	20.6	68.9	0.3	1.0
Hungary[b]										
Ireland[b]										
Japan	12.9	21.2	9.2	15.1	23.8	39.0	9.3	15.2	4.9	8.0
Latvia[b]										
Monaco[c]	0.0	20.0	0.0	40.0					0.0	40.0
Netherlands	4.6	7.2	0.7	1.1	31.5	49.3	22.2	34.7	0.5	0.8
New Zealand	0.4	1.0	0.3	0.7			36.3	97.7	0.2	0.5
Norway	0.0	0.0	2.0	11.1	7.0	38.9	9.0	50.0		
Poland[b]										
Romania[d]	0.3	0.4	16.3	24.6	24.4	36.9	25.3	38.1		
Slovakia[b]										
Spain	2.0	2.1	18.2	19.3	10.4	11.0	63.5	67.4	0.1	0.1
Sweden[b]										
Switzerland[b]										
United Kingdom	4.2	2.0	11.3	5.3	95.3	44.3	103.8	48.3	0.4	0.2
United States of	200.0	17.6	44.0	3.9	96.0	8.5	770.0	67.8	26.0	2.3
Total	277.7	10.8	167.7	6.5	517.4	20.1	1 534.3	59.5	42.5	1.6

[a] Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.

[b] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no emission estimates are given in this table.

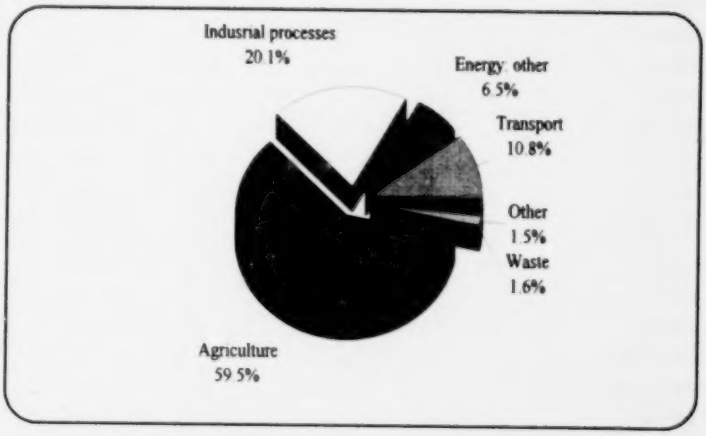
[c] Estimates reported were approximately zero (total 1990: 0.005 Gg).

[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year.

Table A.9. **(continued)**

Other[a]		Total	
(Gg)	%	(Gg)	
2.4	3.2	74.9	AUS
3.4	37.0	9.2	AUT
		30.8	BEL
5.4	2.8	190.0	CAN
			CZE
			DNK
		18.6	FIN
19.7	6.4	308.7	FRA
6.0	2.7	226.0	DEU
		29.9	GRC
			HUN
			IRL
0.9	1.5	61.0	JPN
			LVA
		0.0	MCO
0.5	0.8	63.9	NLD
0.0	0.1	37.1	NZL
		18.0	NOR
			POL
		66.3	ROM
			SVK
		94.2	ESP
			SWE
			CHE
		215.0	GBR
		1 136.0	USA
38.4	1.5	2 579.6	Total

Figure A.9.



Distribution of N_2O emissions by source categories - 1990

[a] Includes *solvent use* and *land-use change and forestry*.

Table A.10. Anthropogenic N_2O emissions by source category, 1996 (Gigagrams and percentage of total by Party)

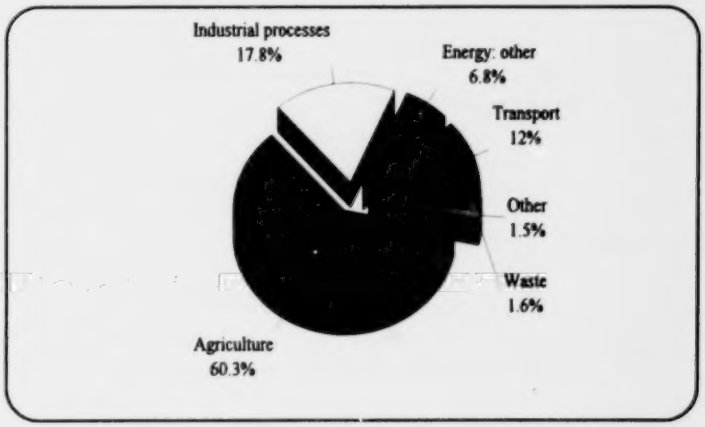
	Energy				Industrial processes		Agriculture		Waste	
	Transport		Other[a]							
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%
Australia	10.5	13.4	2.9	3.7	1.6	2.0	62.0	78.6		
Austria	1.8	18.0	1.0	10.0	0.5	5.0	3.3	33.0		
Belgium	1.1	3.2	7.5	21.2	14.0	39.9	9.8	27.9	0.1	0.2
Canada	51.0	22.2	8.0	3.5	40.0	17.4	130.0	56.5	3.2	1.4
Czech Republic	1.8	6.1	2.4	8.2	3.3	11.5	20.6	70.8	0.0	0.0
Denmark	1.1	3.3	1.9	5.7	0.0	0.0	30.2	89.1	0.0	0.0
Finland	1.8	9.7	5.1	27.6	2.6	14.1	9.0	48.6		
France	8.0	2.7	11.3	3.8	81.1	27.2	173.7	58.4	3.5	1.2
Germany	22.0	9.6	24.0	10.5	87.0	38.2	85.0	37.3	4.0	1.8
Greece	1.1	3.8	6.7	22.9	1.8	6.1	19.5	66.6	0.3	1.0
Hungary[b]			3.4	67.0	0.0	0.0	1.7	32.9		
Ireland	0.6	2.1	3.1	11.9	2.6	10.0	19.0	72.6		
Japan[c]	14.3	22.8	9.5	15.1	23.6	37.7	8.5	13.6	5.3	8.5
Latvia	0.3	1.5	0.1	0.8			15.6	96.1	0.3	1.5
Monaco[d]	0.0	33.3	0.0	33.3					0.0	22.2
Netherlands	7.8	10.8	0.7	1.0	31.6	43.6	27.5	38.0	0.6	0.8
New Zealand	0.5	1.2	0.3	0.7			36.5	97.4	0.2	0.6
Norway	1.0	5.6	2.0	11.1	5.0	27.8	9.0	50.0	0.0	0.0
Poland	1.4	2.7	5.8	10.7	16.2	30.1	30.5	56.5		
Romania[e]			12.6	50.4	5.6	22.4	6.8	27.2		
Slovakia	0.4	5.1	0.5	6.3	1.1	13.9	5.5	69.6	0.4	5.1
Spain[f]	3.0	3.3	20.3	22.4	8.4	9.3	58.6	64.7	0.2	0.2
Sweden	1.7	16.8	5.4	53.5	2.8	27.7	0.2	2.0		
Switzerland	1.9	15.7	0.3	2.1	0.3	2.6	8.7	73.7	0.3	2.5
United Kingdom	10.2	5.4	10.3	5.4	70.3	37.1	98.3	51.9	0.2	0.1
United States of America	200.0	16.2	48.0	3.9	108.0	8.8	848.0	68.8	28.0	2.3
Total	343.2	12.0	193.1	6.8	507.5	17.8	1 717.6	60.3	46.5	1.6

[a] Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.
[b] The Party only reported aggregate emissions from *fuel combustion*; this estimate is included under *other* in this table.
[c] As the Party did not provide N_2O estimates for 1996, estimates for 1995 are given in this table.
[d] Estimates reported were approximately zero (total 1996: 0.009 Gg).
[e] The Party's last reported inventory data were for 1994, which are given in this table. The Party only reported aggregate emissions from *fuel combustion* for 1994; this estimate is included under *other* in this table.
[f] As the Party did not provide estimates for 1996, estimates for 1995 are given in this table.

Table A.10. **(continued)**

Other[a]		Total	
(Gg)	%	(Gg)	
1.8	2.3	78.9	AUS
3.4	34.0	10.0	AUT
2.7	7.6	35.2	BEL
4.5	2.0	230.0	CAN
1.0	3.4	29.1	CZE
0.6	1.9	33.9	DNK
		18.5	FIN
19.9	6.7	297.4	FRA
6.0	2.6	228.0	DEU
		29.3	GRC
0.0	0.0	5.1	HUN
0.9	3.4	26.2	IRL
1.4	2.3	62.7	JPN
		16.3	LVA
		0.0	MCO
0.4	0.6	72.4	NLD
0.0	0.1	37.5	NZL
		18.0	NOR
0.0	0.0	53.9	POL
		25.0	ROM
0.0	0.0	7.9	SVK
		90.5	ESP
		10.1	SWE
0.4	3.2	11.8	CHE
		189.3	GBR
		1 232.0	USA
43.1	1.5	2 849.0	Total

Figure A.10.



Distribution of N_2O emissions by source categories - 1996

[a] Includes *solvent use* and *land-use change and forestry*.

Table A.11. Emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride[a,b] (Gigagrams of CO_2 equivalent using IPCC 1995 GWP values with a time horizon of 100 years), 1990 and 1996, and percentage change by Party

	HFCs[c]			PFCs[d]			SF_6		
	1990 Gg	1996 Gg	%	1990 Gg	1996 Gg	%	1990 Gg	1996 Gg	%
Australia				4 860	1 484	-69		15	
Austria[cd]		712			70			789	
Belgium		533			73		333	333	0
Canada		500		6 000	6 000	0	3 000	1 000	-67
Czech Republic[cd]		222			4			183	
Denmark[cd]		300			3			134	
Finland	200	380	90				100	120	20
France[e]	2 232	2 325	4	3 033	1 428	-53	2 414	2 701	12
Germany[c]	2 340	3 593	54	2 694	1 617	-40	3 896	5 879	51
Greece	935	3 746	30	503	385	-23			
Hungary[f]									
Ireland[f]									
Japan[cd]	17 564	34 433	96	5 670	15 830	179	38 240	52 580	38
Latvia[f]									
Monaco[f]									
Netherlands	4 900	7 200	47	2 500	2 300	-8	1 400	1 500	7
New Zealand		297		601	262	-56	25	25	0
Norway	0	268		2 546	1 271	-50	2 199	526	-76
Poland[cd]		68			7				
Romania[f]									
Slovakia					320				
Spain[f]									
Sweden[f]									
Switzerland		413			24			72	
United Kingdom[cd]	12 180	15 358	26	2 085	535	-74	574	837	46
United States of America[g]	35 809	66 824	87	18 003	18 401	2	26 744	36 663	37

[a] The estimates provided in this table are in many cases approximate, as Parties provided emissions of HFCs and PFCs on an aggregate basis and the secretariat had to make assumptions as to the species of the gases to calculate emissions in CO_2 equivalent. The secretariat based the assumptions to the extent possible on information provided in previously submitted inventories (second national communications).

[b] Estimates given in this table refer to actual emissions, except in cases where only potential emissions have been reported, as was the case for Austria, Finland and Japan. New Zealand also reported potential emissions, with the exception of some PFCs, which are actual emissions. The Netherlands reported actual emissions for HFCs and PFCs, but potential emissions for SF_6. In the case of Switzerland actual figures for PFCs and SF_6 are given in this table, while potential emissions are given for HFCs. Norway reported potential emissions for HFCs and SF_6, and actual emissions for PFCs.

[c] Austria, the Czech Republic, Denmark, Germany, Japan, Poland and the United Kingdom only reported aggregate estimates in full mass for HFCs. The secretariat calculated HFC emissions in CO_2 equivalent based on information as to the species of the gases provided in second national communications. For Poland it was assumed that all these emissions were HFC-134a, as no information was available in the national communication.

[d] Austria, the Czech Republic, Denmark, Japan, Poland and the United Kingdom only reported aggregate PFC figures in full mass. The secretariat calculated PFC emissions in CO_2 equivalent for Austria and Japan based on information provided in second national communications. For the Czech Republic, Denmark, Poland and the United Kingdom it was assumed that approximately 90 per cent was CF_4 and 10 per cent was C_2F_6.

[e] In its submission the Party indicated a GWP value for PFC 14 (CF_4) of 5100. For the conversion of the estimate into CO_2 equivalent the secretariat applied GWP values as indicated in the heading of this table, for consistency purposes.

[f] Estimates were not provided for these gases.

[g] The Party also reported emissions from diverse PFCs and perfluoropolyethers (PFPEs) that are employed in solvent applications. The GWP for this group of substances is based upon that of C_6F_{14}.

Table A.11. (continued)

Total			
1990 Gg	1996 Gg	%	
4 860	1 499	-69	AUS
	1 571		AUT
333	939	182	BEL
9 000	7 500	-17	CAN
	409		CZE
	436		DNK
300	500	67	FIN
7 679	6 453	-16	FRA
8 930	11 090	24	DEU
1 438	4 131	187	GRC
			HUN
			IRL
61 474	102 843	67	JPN
			LVA
			MCO
8 800	11 000	25	NLD
626	584	-7	NZL
4 745	2 065	-56	NOR
	74		POL
			ROM
	320		SVK
			ESP
			SWE
	508		CHE
14 838	16 730	13	GBR
80 556	121 888	51	USA

Figure A.11.

Percentage contribution of HFCs, PFCs and SF_6 to aggregate greenhouse gases in 1990 and 1996 (using 1995 IPCC GWP values)

Table A.12. Anthropogenic emissions of precursor gases and SO_2, 1990 and 1996 (Gigagrams)

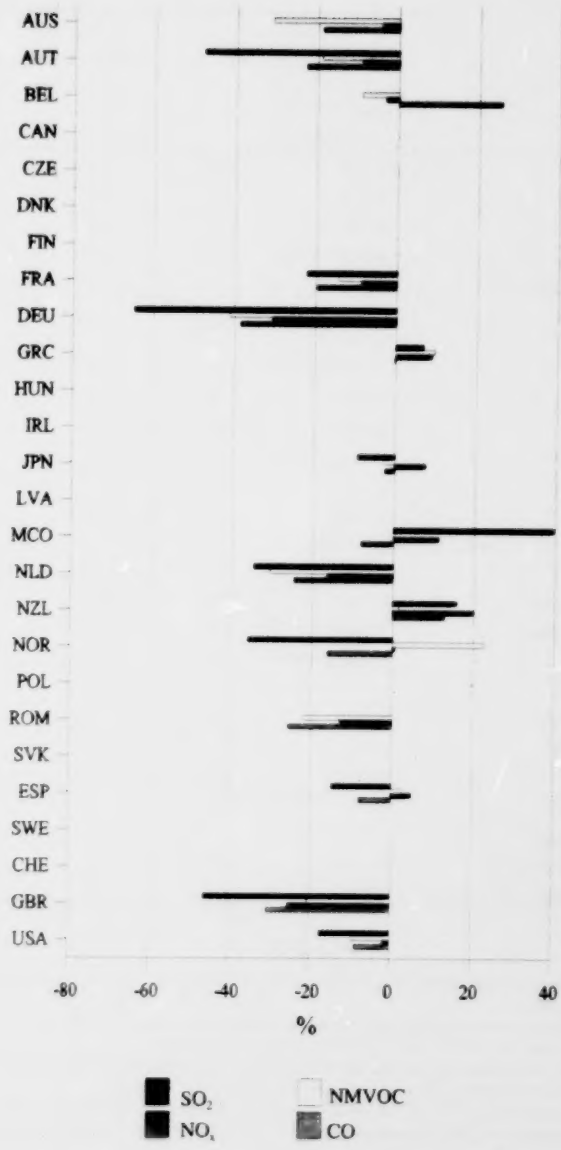
	Precursor gases					
	CO		NO_x		NMVOC	
	1990	1996	1990	1996	1990	1996
Australia	22 617	18 362	2 330	2 231	2 439	1 681
Austria	1 286	993	185	168	474	384
Belgium	1 127	1 415	339	328	331	301
Canada[a]		9 900		2 000		2 800
Czech Republic[b]		906		433		282
Denmark[b]		616		291		139
Finland[c]						
France	10 398	8 350	1 952	1 783	2 971	2 539
Germany	10 916	6 710	2 677	1 859	3 178	1 868
Greece	1 338	1 334	343	374	373	409
Hungary[b]		1 148		204		78
Ireland[ab]		302		113		175
Japan[d]	3 907	3 815	1 789	1 926	1 932	1 883
Latvia[b]		176		35		41
Monaco	3	3	1	1	1	1
Netherlands	1 139	860	563	471	500	347
New Zealand	751	846	140	168	155	158
Norway	858	720	222	223	301	369
Poland[b]		4 837		1 154		766
Romania[e]	2 421	1 800	554	483	529	413
Slovakia[b]		359		131		104
Spain[d]	4 734	4 357	1 164	1 222	1 123	1 152
Sweden[b]		1 082		301		457
Switzerland[b]		485		128		193
United Kingdom	6 685	4 641	2 747	2 052	2 550	2 028
United States of America	83 732	76 435	21 612	21 254	18 768	17 020

[a] Estimates were only reported for 1995, which are given in this table.
[b] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no estimates for 1990 are shown in this table.
[c] The Party did not provide estimates.
[d] As for 1996 the Party did not provide estimates, 1995 estimates are given in this table.
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. The last reported inventory data were for 1994, which are given in this table.

Table A.12. (continued)

SO_2		
1990	**1996**	
0	1 842	AUS
91	48	AUT
0	237	BEL
	2 700	CAN
	946	CZE
	181	DNK
		FIN
1 291	1 005	FRA
5 262	1 851	DEU
509	543	GRC
		HUN
		IRL
899	817	JPN
	59	LVA
0	0	MCO
193	127	NLD
53	62	NZL
53	34	NOR
		POL
1 516	1 204	ROM
	226	SVK
2 195	1 873	ESP
		SWE
	30	CHE
3 763	2 026	GBR
21 379	17 673	USA

Figure A.12.



Percentage change in CO, NO_x, NMVOC and SO_2 emissions in 1996, relative to 1990

Table B.1. Aggregate emissions of all greenhouse gases,[a] 1990-1996, excluding land-use change and forestry (Gigagrams of CO_2 equivalent and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	415 656	100	101	101	102	105	107
Austria[b]	77 271	106	98	97	97	104	106
Belgium[c]	139 276	103	101	99	104	104	110
Canada	598 099	99	101	103	106	109	112
Czech Republic[d]							
Denmark[d]							
Finland[e]	72 786					100	107
France	557 452	104	102	97	97	98	101
Germany	1 209 107	96	92	91	90	89	90
Greece	105 235	100	101	102	104	107	109
Hungary[d]							
Ireland[d]							
Japan[f]	1 237 446	102	104	103	109	111	
Latvia[d]							
Monaco	111	116	123	125	128	125	131
Netherlands	217 107	103	102	103	104	108	112
New Zealand	72 499	100	101	101	100	100	103
Norway	55 064	96	93	97	101	102	107
Poland[d]							
Romania[g]	264 879	68	65	63	62		
Slovakia[d]							
Spain[h]	301 431	100	103	100	104	108	
Sweden[d]							
Switzerland[d]							
United Kingdom	757 851	100	97	94	93	92	95
United States of America	5 998 204	99	101	103	105	106	109

[a] Aggregate emissions of CO_2, CH_4 and N_2O, and HFCs, PFCs and SF_6 where reported (see table A.11), using IPCC 1995 global warming potentials.

[b] The trend shown here may not be fully consistent, as estimates for 1995 and 1996 also include HFC, PFC, and SF_6 emissions, while estimates for 1990 to 1994 are for CO_2, CH_4 and N_2O only.

[c] The trend shown here may not be fully consistent, as estimates for 1990 and 1996 also include HFC, PFC, and SF_6 emissions, while estimates for the years in between are for CO_2, CH_4 and N_2O only.

[d] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[e] The Party only provided estimates for the years 1990, 1995 and 1996.

[f] As no estimates for CH_4 and N_2O were provided for 1996, no aggregate GHG emissions for this year are given here.

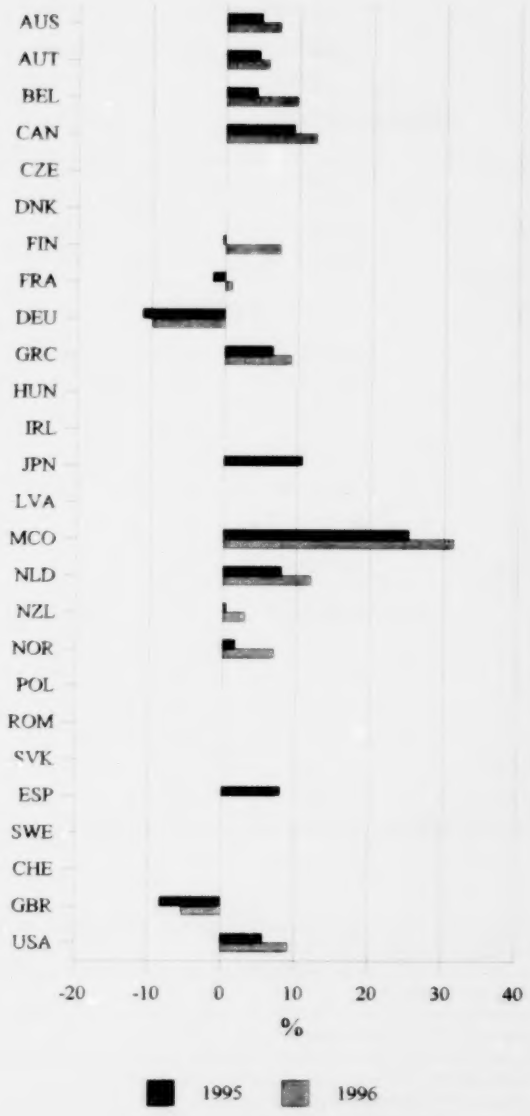
[g] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the period 1989-1991.

[h] The Party did not provide 1996 estimates.

Table B.1. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
435 471	445 840	102	AUS
80 718	81 723	101	AUT
145 126	152 797	105	BEL
653 570	671 374	103	CAN
	153 989		CZE
	93 117		DNK
72 489	78 243	108	FIN
547 981	562 271	103	FRA
1 073 748	1 090 974	102	DEU
112 189	114 789	102	GRC
77 857	79 130	102	HUN
59 324	59 722	101	IRL
1 369 311			JPN
	18 064		LVA
139	145	105	MCO
234 432	243 071	104	NLD
72 777	74 667	103	NZL
55 984	58 903	105	NOR
	436 616		POL
			ROM
54 546	55 468	102	SVK
325 530			ESP
	72 723		SWE
	53 924		CHE
695 301	716 818	103	GBR
6 344 659	6 551 589	103	USA

Figure B.1.



Percentage change in aggregate greenhouse gas emissions, excluding land-use change and forestry, in 1995 and 1996, relative to 1990 (aggregated using 1995 IPCC GWP values)

Table B.2. Aggregate emissions of all greenhouse gases,[a] 1990-1996, including land-use change and forestry[b] (Gigagrams of CO_2 equivalent and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	474 529	99	98	98	97	100	102
Austria[c]	63 971	104	90	89	95	105	106
Belgium[d]	137 219	103	101	99	104	104	110
Canada	554 099	97	102	106	110	115	116
Czech Republic[e]							
Denmark[e]							
Finland[f]							
France	527 136	105	102	95	95	97	99
Germany	1 179 107	95	91	90	89	88	89
Greece[f]							
Hungary[e]							
Ireland[e]							
Japan[g]	1 153 543	102	104	102	109	110	
Latvia[e]							
Monaco[f]							
Netherlands	215 607	103	103	103	104	108	112
New Zealand	51 186	102	107	109	110	110	114
Norway	45 474	91	83	87	88	93	91
Poland[e]							
Romania[h]	261 954	66	63	61	60		
Slovakia[e]							
Spain[f]							
Sweden[e]							
Switzerland[e]							
United Kingdom	778 057	100	97	93	92	91	94
United States of America	4 856 004	99	101	111	114	115	119

[a] Aggregate emissions of CO_2, CH_4 and N_2O, and HFCs, PFCs and SF_6 where reported (see table A.11), using IPCC 1995 global warming potentials.

[b] Estimates for *land-use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).

[c] The trend shown here may not be fully consistent, as estimates for 1995 and 1996 also include HFC, PFC, and SF_6 emissions, while estimates for 1990 to 1994 are for CO_2, CH_4 and N_2O only.

[d] The trend shown here may not be fully consistent, as estimates for 1990 and 1996 also include HFC, PFC, and SF_6 emissions, while estimates for the years in between are for CO_2, CH_4 and N_2O only.

[e] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[f] As the Party did not provide estimates from the *land-use change and forestry* sector, no estimates are given in this table.

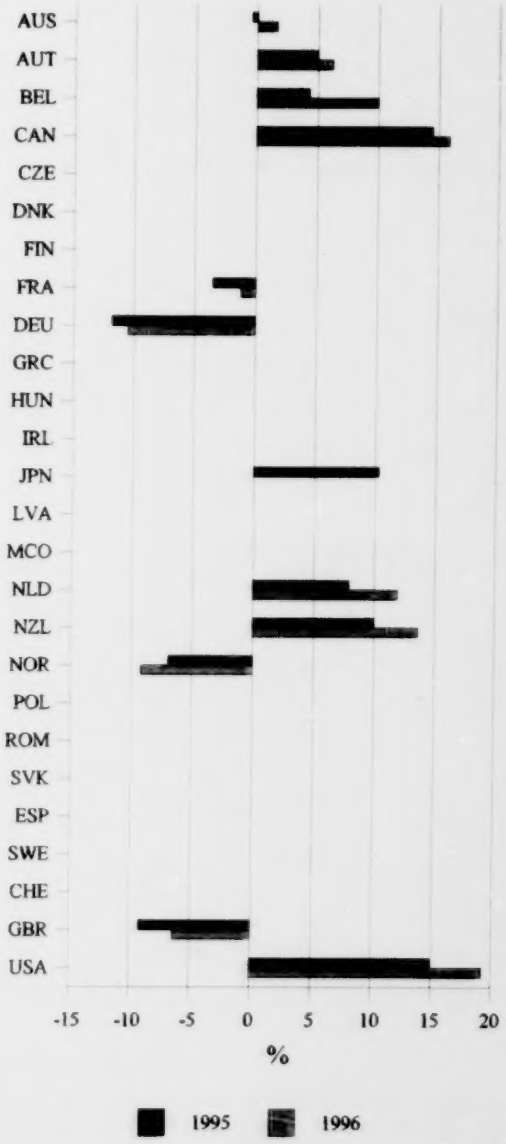
[g] As the Party neither provided 1996 estimates for CH_4 and N_2O nor for *land-use change and forestry*, no estimates for this year are given here.

[h] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

Table B.2. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
472 615	482 101	102	AUS
67 118	67 923	101	AUT
143 069	150 740	105	BEL
634 570	642 374	101	CAN
	149 510		CZE
	93 093		DNK
			FIN
508 846	521 022	102	FRA
1 040 048	1 055 074	101	DEU
			GRC
73 060	75 199	103	HUN
53 094	53 225	100	IRL
1 272 606			JPN
	3 744		LVA
			MCO
232 732	241 371	104	NLD
56 309	58 137	103	NZL
42 344	41 292	98	NOR
	393 999		POL
			ROM
49 430	50 187	102	SVK
			ESP
	40 427		SWE
	48 724		CHE
706 775	728 118	103	GBR
5 579 959	5 786 906	104	USA

Figure B.2.



Percentage change in aggregate greenhouse gas emissions, including land-use change and forestry, in 1995 and 1996, relative to 1990 (aggregated using 1995 IPCC GWP values)

Table B.3. Total anthropogenic CO_2 emissions, excluding land-use change and forestry, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	
Australia	275 344	101	102	103	104	108	112
Austria	62 100	108	98	96	97	102	105
Belgium	116 090	103	102	100	104	105	111
Canada	460 899	98	101	101	103	107	110
Czech Republic[a]							
Denmark[ab]							
Finland[c]	59 200					103	112
France	390 708	107	105	99	99	101	104
Germany	1 014 155	96	91	91	89	88	90
Greece	85 349	100	102	102	104	106	108
Hungary[a]							
Ireland[a]							
Japan	1 124 532	102	103	102	108	109	110
Latvia[a]							
Monaco	108	116	123	125	128	125	131
Netherlands[b]	161 360	103	102	104	104	110	115
New Zealand	25 241	102	110	107	107	107	115
Norway	35 457	95	97	101	107	108	116
Poland[a]							
Romania[d]	194 826	70	67	65	64		
Slovakia[a]							
Spain[c]	226 423	100	104	100	105	109	
Sweden[a]							
Switzerland[a]							
United Kingdom	583 165	101	98	95	95	93	97
United States of America	4 943 300	99	100	103	104	105	109

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] Party also provided estimates adjusted for temperature correction, and in the case of Denmark also for electricity exchange, but non-adjusted estimates were included in this table for comparison and consistency purposes.

[c] The Party only provided estimates for the years 1990, 1995 and 1996.

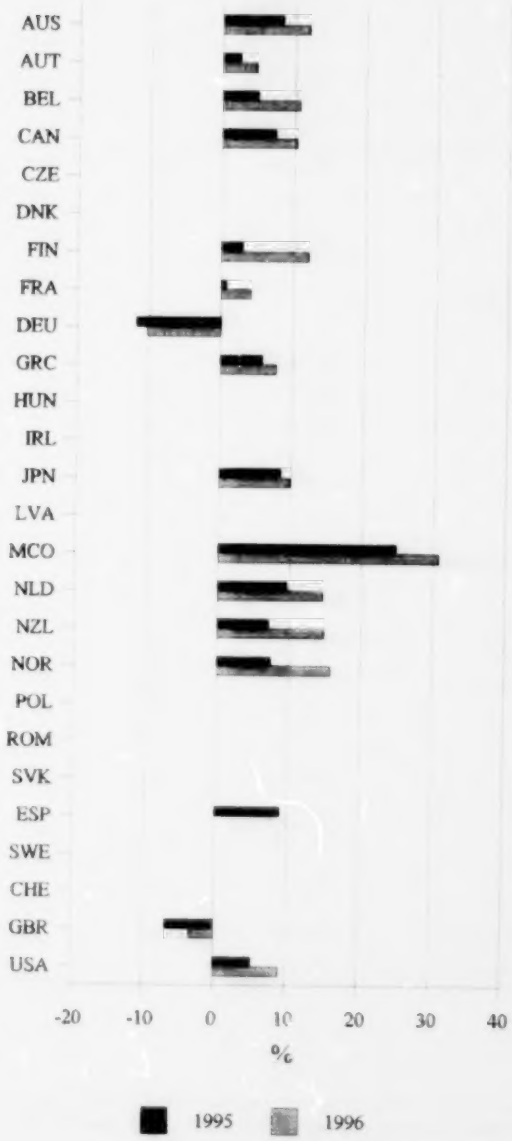
[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[e] The Party did not provide 1996 estimates.

Table B.3. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
298 301	308 413	103	AUS
63 600	65 000	102	AUT
121 832	128 546	106	BEL
494 970	508 574	103	CAN
	132 538		CZE
	73 236		DNK
60 900	66 340	109	FIN
393 419	406 666	103	FRA
894 500	910 000	102	DEU
90 306	91 978	102	GRC
59 758	60 475	101	HUN
34 116	34 819	102	IRL
1 220 218	1 234 904	101	JPN
	11 065		LVA
135	141	105	MCO
176 910	184 870	104	NLD
27 033	29 008	107	NZL
38 123	41 073	108	NOR
	372 530		POL
			ROM
45 360	46 105	102	SVK
247 703			ESP
	63 350		SWE
	44 970		CHE
543 753	563 450	104	GBR
5 203 500	5 393 883	104	USA

Figure B.3.



Percentage change in total CO_2 emissions, excluding land-use change and forestry, in 1995 and 1996, relative to 1990

Table B.4. CO_2 emissions from fuel combustion, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	
Australia	262 623	101	102	103	104	109	113
Austria	46 700	110	99	98	98	107	109
Belgium	105 919	103	102	99	104	104	110
Canada	412 000	97	101	101	104	107	110
Czech Republic[a]							
Denmark[ab]							
Finland[c]	53 900					104	114
France	360 186	108	106	100	99	101	105
Germany	986 487	96	91	91	89	88	90
Greece	77 256	100	102	103	105	106	108
Hungary[a]							
Ireland[a]							
Japan	1 052 964	102	103	101	108	108	109
Latvia[a]							
Monaco	106	115	122	124	127	124	130
Netherlands[b]	157 530	104	103	105	105	110	115
New Zealand	22 240	102	110	106	107	106	115
Norway	26 730	97	100	104	109	108	119
Poland[a]							
Romania[d]	185 575	70	68	66	65		
Slovakia[a]							
Spain[e]	207 592	101	105	101	106	111	
Sweden[a]							
Switzerland[a]							
United Kingdom	558 774	102	99	96	95	94	97
United States of America	4 881 500	99	100	103	104	105	109

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] Party also provided estimates adjusted for temperature correction, and in the case of Denmark also for electricity exchange, but non-adjusted estimates were included in this table for comparison and consistency purposes.

[c] The Party only provided estimates for the years 1990, 1995 and 1996.

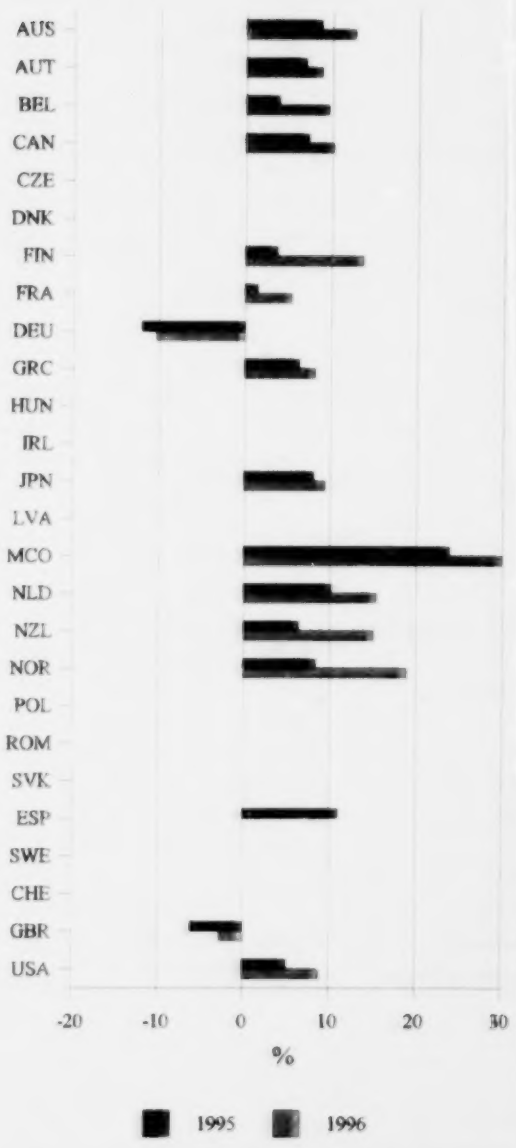
[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[e] The Party did not provide 1996 estimates.

Table B.4. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
285 464	295 620	104	AUS
49 900	50 800	102	AUT
109 936	116 069	106	BEL
442 000	454 000	103	CAN
	129 516		CZE
	71 406		DNK
55 900	61 300	110	FIN
365 226	379 711	104	FRA
868 200	885 000	102	DEU
82 110	83 582	102	GRC
57 567	58 174	101	HUN
32 290	33 027	102	IRL
1 138 155	1 152 134	101	JPN
	10 875		LVA
131	138	105	MCO
173 530	181 730	105	NLD
23 670	25 594	108	NZL
28 979	31 779	110	NOR
	363 499		POL
			ROM
42 270	43 104	102	SVK
229 675			ESP
	59 390		SWE
	41 300		CHE
524 887	543 880	104	GBR
5 128 300	5 317 843	104	USA

Figure B.4.



Percentage change in CO_2 emissions from fuel combustion in 1995 and 1996, relative to 1990

Table B.5. CO_2 emissions from transport, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	59 596	99	101	103	105	109	113
Austria	13 900	111	111	109	113	112	113
Belgium	19 964	100	105	106	110	109	112
Canada	147 000	97	99	101	107	110	114
Czech Republic[a]							
Denmark[a]							
Finland[b]	11 900					93	92
France	123 111	102	105	105	108	109	110
Germany	162 231	102	106	107	107	107	107
Greece	15 170	105	108	110	110	111	114
Hungary[a]							
Ireland[a]							
Japan	207 431	105	107	108	113	117	120
Latvia[a]							
Monaco	39	115	128	119	123	120	118
Netherlands	28 560	100	104	107	108	112	117
New Zealand	8 645	100	105	109	118	126	127
Norway	13 885	98	99	103	103	106	112
Poland[a]							
Romania[c]	7 893	95	87	95	98		
Slovakia[a]							
Spain[d]	58 260	102	104	104	106	110	
Sweden[a]							
Switzerland[a]							
United Kingdom	115 901	100	101	102	102	101	105
United States of America	1 499 100	98	99	101	104	106	109

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

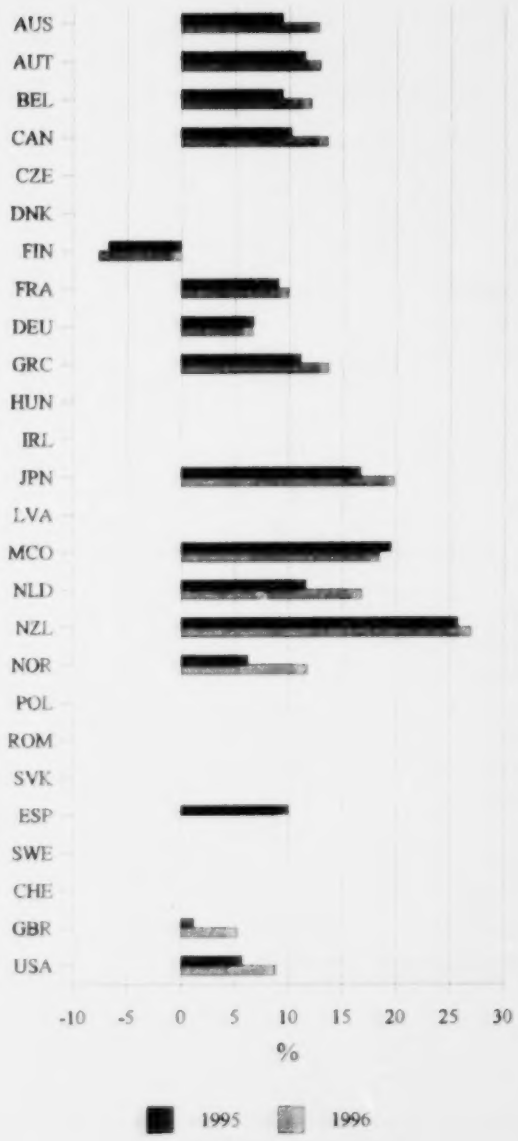
[c] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[d] The Party did not provide 1996 estimates.

Table B.5. **(continued)**

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
65 185	67 240	103	AUS
15 500	15 700	101	AUT
21 834	22 389	103	BEL
162 000	167 000	103	CAN
	9 896		CZE
	11 748		DNK
11 100	11 000	99	FIN
134 137	135 368	101	FRA
173 100	173 000	100	DEU
16 850	17 253	102	GRC
7 001	6 612	94	HUN
6 198	6 538	105	IRL
242 148	248 576	103	JPN
	1 612		LVA
47	47	99	MCO
31 860	33 370	105	NLD
10 869	10 972	101	NZL
14 745	15 508	105	NOR
	28 098		POL
			ROM
4 216	4 164	99	SVK
64 268			ESP
	19 573		SWE
	14 910		CHE
117 288	121 882	104	GBR
1 584 400	1 631 090	103	USA

Figure B.5.



Percentage change in CO_2 emissions from transport in 1995 and 1996, relative to 1990

Table B.6. CO_2 emissions from small combustion,[a] 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	12 178	101	103	107	108	112	113
Austria	12 900	119	109	114	109	122	114
Belgium	26 262	115	114	113	112	117	135
Canada	69 900	97	100	107	106	106	114
Czech Republic[b]							
Denmark[b]							
Finland[c]	7 300					97	104
France	93 833	111	110	107	101	103	111
Germany	203 314	101	92	93	92	91	101
Greece	8 168	104	100	98	99	100	123
Hungary[b]							
Ireland[b]							
Japan	158 298	104	107	107	105	112	109
Latvia[b]							
Monaco	29	135	131	137	130	124	135
Netherlands	35 400	114	106	113	109	112	130
New Zealand	2 733	95	108	98	105	100	96
Norway	2 428	85	76	74	79	79	104
Poland[b]							
Romania[d]	28 274	91					
Slovakia[b]							
Spain[e]	26 177	101	105	101	106	107	
Sweden[b]							
Switzerland[b]							
United Kingdom	112 207	110	107	110	105	102	114
United States of America	549 200	102	104	108	106	108	114

[a] Includes emissions from the source/sink categories: *commercial/institutional*, *residential*, and *agricultural/forestry/fishing*.

[b] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[c] The Party only provided estimates for the years 1990, 1995 and 1996.

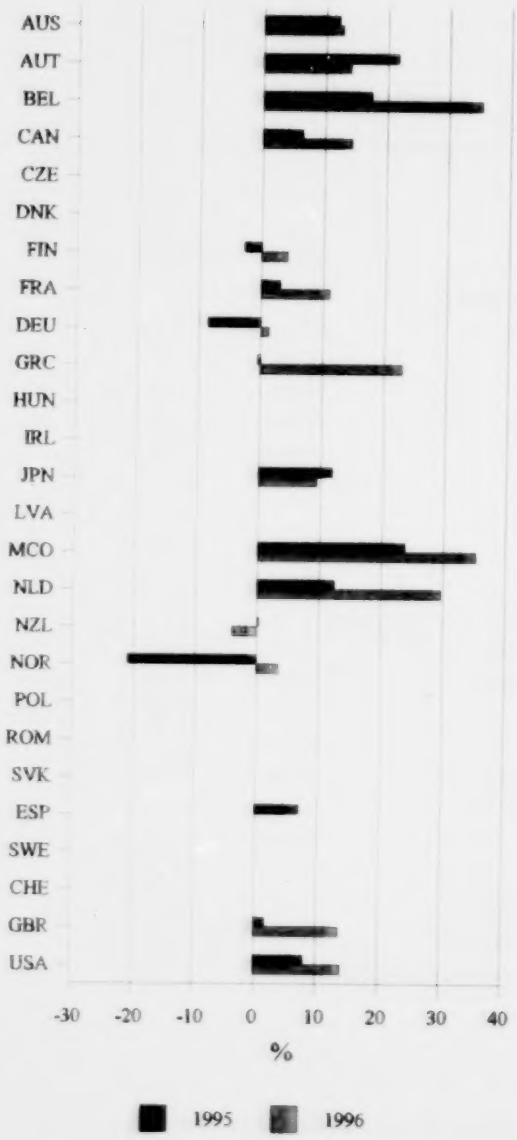
[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were provided for 1989 to 1994, but for the years 1992-1994 only aggregate estimates for stationary combustion, which includes all fuel combustion subcategories other than transport, were provided.

[e] The Party did not provide 1996 estimates.

Table B.6. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
13 646	13 727	101	AUS
15 700	14 700	94	AUT
30 831	35 548	115	BEL
74 400	79 900	107	CAN
	17 936		CZE
	9 273		DNK
7 100	7 600	107	FIN
96 683	104 199	108	FRA
186 000	206 000	111	DEU
8 132	10 039	123	GRC
16 762	18 091	108	HUN
9 266	8 956	97	IRL
176 999	173 239	98	JPN
	2 289		LVA
36	40	109	MCO
39 780	45 880	115	NLD
2 741	2 624	96	NZL
1 920	2 514	131	NOR
	64 106		POL
			ROM
7 941			SVK
28 110			ESP
	11 015		SWE
	19 300		CHE
114 156	127 481	112	GBR
593 200	626 200	106	USA

Figure B.6.



Percentage change in CO_2 emissions from small combustion in 1995 and 1996, relative to 1990

Table B.7. CO_2 emissions from industrial processes, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	6 655	95	93	97	110	105	107
Austria	12 700	99	91	86	88	85	86
Belgium	9 188	104	105	106	114	117	123
Canada	31 900	105	107	113	113	115	123
Czech Republic[a]							
Denmark[a]							
Finland[b]	1 200					67	70
France	20 948	92	85	81	86	89	83
Germany	27 668	90	92	91	97	95	90
Greece	7 804	98	97	100	94	101	104
Hungary[a]							
Ireland[a]							
Japan	58 795	103	104	103	104	104	104
Latvia[a]							
Monaco[c]	0						
Netherlands	1 880	81	67	64	76	93	93
New Zealand	2 386	105	111	116	112	115	115
Norway	6 694	93	90	94	102	107	107
Poland[a]							
Romania[d]	9 244	56	50	48	46		
Slovakia[a]							
Spain[e]	17 690	98	89	84	93	98	
Sweden[a]							
Switzerland[a]							
United Kingdom	13 916	82	75	72	85	82	84
United States of America	54 500	98	99	101	107	113	116

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] The Party did not provide estimates but indicated that emissions were negligible.

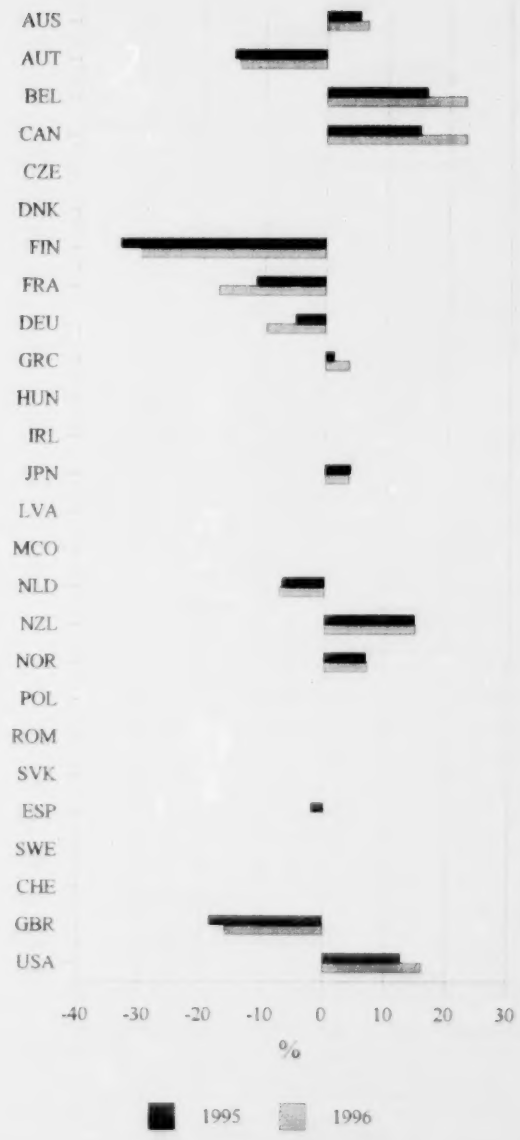
[d] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[e] The Party did not provide 1996 estimates.

Table B.7. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
7 018	7 110	101	AUS
10 800	10 900	101	AUT
10 706	11 287	105	BEL
36 800	39 200	107	CAN
	2 479		CZE
	1 388		DNK
800	840	105	FIN
18 576	17 313	93	FRA
26 300	25 000	95	DEU
7 912	8 111	103	GRC
1 438	1 548	108	HUN
1 772	1 738	98	IRL
61 236	61 093	100	JPN
	185		LVA
0	0		MCO
1 750	1 740	99	NLD
2 736	2 742	100	NZL
7 152	7 163	100	NOR
	8 938		POL
			ROM
3 090	3 001	97	SVK
17 278			ESP
	3 711		SWE
	2 200		CHE
11 344	11 703	103	GBR
61 500	63 309	103	USA

Figure B.7.



Percentage change in CO_2 emissions from industrial processes in 1995 and 1996, relative to 1990

Table B.8. **Anthropogenic CO_2 emissions and removals from land-use change and forestry,[a] 1990-1996 (Gigagrams and percentage change by Party)**

		Percentage relative to 1990, 1990=100					
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia[a]	58 873	86	80	76	65	63	62
Austria	- 13 300	115	135	134	111	102	104
Belgium	- 2 057	100	100	100	100	100	100
Canada	- 44 000	120	98	70	59	43	66
Czech Republic[b]							
Denmark[b]							
Finland[c]							
France	- 30 316	90	103	125	134	129	136
Germany	- 30 000	132	136	136	109	112	120
Greece[c]							
Hungary[b]							
Ireland[b]							
Japan[d]	- 83 903	100	102	107	111	115	
Latvia[b]							
Monaco[c]							
Netherlands	- 1 500	107	107	107	113	113	113
New Zealand	- 21 313	95	87	79	77	77	78
Norway	- 9 590	122	138	141	164	142	184
Poland[b]							
Romania	- 2 925	225	225	225	225		
Slovakia[b]							
Spain[c]							
Sweden[b]							
Switzerland[b]							
United Kingdom[ca]	20 207	96	91	81	61	57	56
United States of America	-1 142 200	100	100	67	67	67	67

[a] Estimates for *land-use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories. In this table negative values in gigagrams indicate net removal of CO_2 from the *land-use change and forestry* sector; negative values in percentage (below 100) represent less removals in relation to the year 1990 and positive values indicate more removals, except for Australia and the United Kingdom where the negative values in percentage (below 100) indicate less emissions or more removals.

[b] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[c] The Party did not include any estimates from the *land-use change and forestry* sector in its national inventory. However, Finland stated that the annual carbon sink from stem wood has been between 12500 and 37500 Gg. Greece provided some not officially accepted figures from the *land-use change and forestry* sector with the purpose of giving an indication of the level of the possible emissions/removals from this sector.

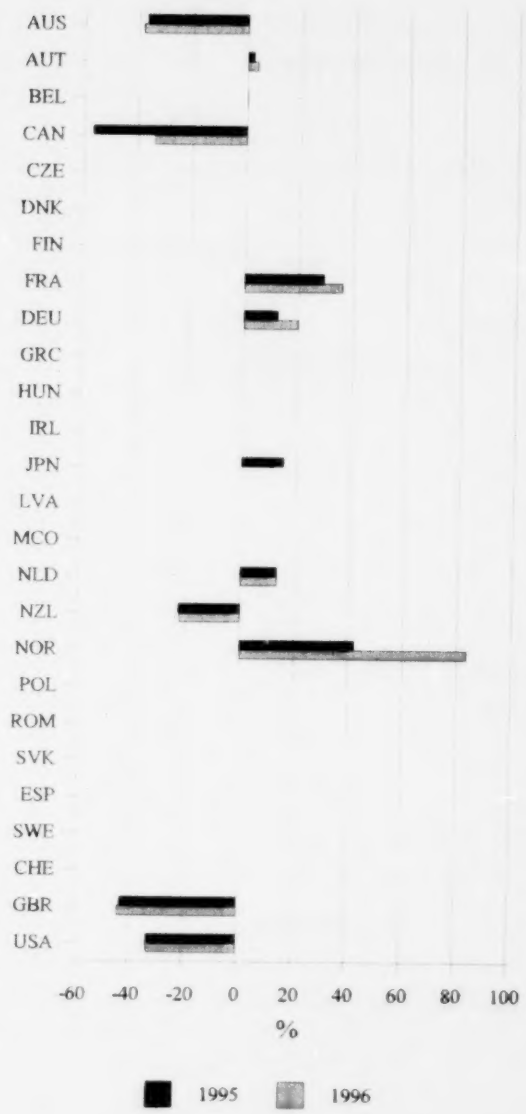
[d] The Party did not provide estimates from *land-use change and forestry* for 1996 due to lack of data.

[e] The estimates include CO_2 emissions from wetland drainage and peat extraction, and removals by salt marshes.

Table B.8. **(continued)**

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
37 144	36 260	98	AUS
- 13 600	- 13 800	101	AUT
- 2 057	- 2 057	100	BEL
- 19 000	- 29 000	153	CAN
	- 4 479		CZE
	- 24		DNK
			FIN
- 39 135	- 41 249	105	FRA
- 33 700	- 35 900	107	DEU
			GRC
- 4 797	- 3 931	82	HUN
- 6 230	- 6 497	104	IRL
- 96 705			JPN
	- 14 320		LVA
			MCO
- 1 700	- 1 700	100	NLD
- 16 468	- 16 530	100	NZL
- 13 640	- 17 611	129	NOR
	- 42 617		POL
			ROM
- 5 116	- 5 281	103	SVK
			ESP
	- 32 296		SWE
	- 5 200		CHE
11 474	11 299	98	GBR
- 764 700	- 764 683	100	USA

Figure B.8.



Percentage change in CO_2 emissions and removals from land-use change and forestry in 1995 and 1996, relative to 1990

(Negative values in percentage represent less removals, except for Australia and the United Kingdom where they represent less emissions or more removals)

Table B.9. **Anthropogenic CO_2 emissions from international bunkers, 1990-1996 (Gigagrams and percentage)**

	Percentage relative to 1990, 1990=100						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
	(Gg)	**%**	**%**	**%**	**%**	**%**	**%**
Australia	6 401	100	103	109	113	133	141
Austria	890	117	125	121	128	137	155
Belgium	15 726	102	106	107	102	99	116
Canada	4 920	94	94	87	92	96	105
Czech Republic[a]							
Denmark[a]							
Finland	2 800					64	75
France	15 488	102	109	110	107	112	117
Germany	19 569	93	91	102	102	102	102
Greece	10 423	91	102	122	127	133	119
Hungary[a]							
Ireland[a]							
Japan	30 806	107	111	119	122	121	105
Latvia[b]							
Monaco[b]							
Netherlands	40 400	103	106	110	107	110	113
New Zealand	2 384	92	92	95	116	114	108
Norway	1 988	90	107	117	121	142	157
Poland[a]							
Romania[b]							
Slovakia[c]							
Spain[b]							
Sweden[a]							
Switzerland[a]							
United Kingdom	21 349	98	107	112	114	122	132
United States of America	83 400	105	109	100	98	104	99

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no emission trends are shown in this table.

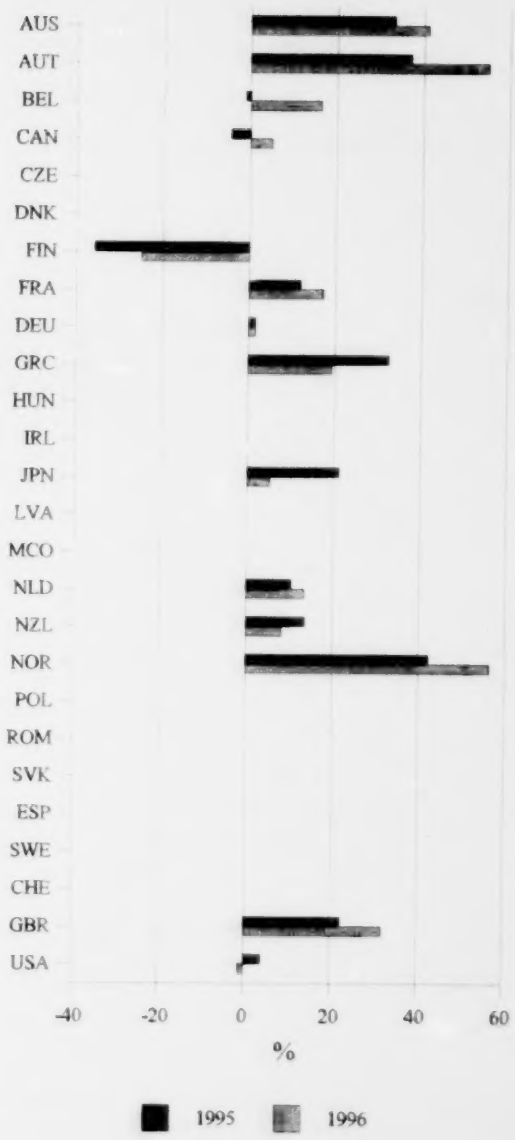
[b] The Party did not provide estimates from international bunker fuels.

[c] The Party did not report estimates from international bunker fuels, but indicated that emissions were negligible.

Table B.9. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
8 533	9 031	106	AUS
1 220	1 380	113	AUT
15 556	18 308	118	BEL
4 710	5 170	110	CAN
	459		CZE
	6 970		DNK
1 800	2 100	117	FIN
17 329	18 154	105	FRA
19 874	19 874	100	DEU
13 812	12 432	90	GRC
524	560	107	HUN
1 510	1 605	106	IRL
37 328	32 420	87	JPN
			LVA
			MCO
44 600	45 800	103	NLD
2 708	2 580	95	NZL
2 828	3 112	110	NOR
	2 068		POL
			ROM
			SVK
			ESP
	4 899		SWE
	2 500		CHE
26 086	28 163	108	GBR
86 700	82 400	95	USA

Figure B.9.



Percentage change in CO_2 emissions from international bunkers in 1995 and 1996, relative to 1990

Table B.10. Total anthropogenic CH_4 emissions, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	5 345	100	99	99	98	99	99
Austria	587	98	98	98	99	98	98
Belgium	634	99	99	100	100	94	93
Canada	3 300	103	106	112	115	118	121
Czech Republic[a]							
Denmark[a]							
Finland[b]	358					75	75
France	3 018	99	97	95	93	92	90
Germany	5 522	93	92	89	87	86	86
Greece	437	100	100	101	103	104	105
Hungary[a]							
Ireland[a]							
Japan[c]	1 549	99	98	97	96	96	
Latvia[a]							
Monaco[d]	0						
Netherlands	1 292	101	97	95	93	91	91
New Zealand	1 673	98	96	96	96	96	95
Norway	442	100	103	103	107	111	110
Poland[a]							
Romania[e]	2 357	74	68	65	62		
Slovakia[a]							
Spain[f]	2 181	99	103	106	107	109	
Sweden[a]							
Switzerland[a]							
United Kingdom	4 438	99	98	90	85	85	84
United States of America	29 628	101	102	101	103	106	105

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in a second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] CH_4 estimates were only provided for 1990-1995.

[d] The trend in emissions is not shown here as estimates reported were approximately zero (0.05-0.06Gg, 1990 to 1996).

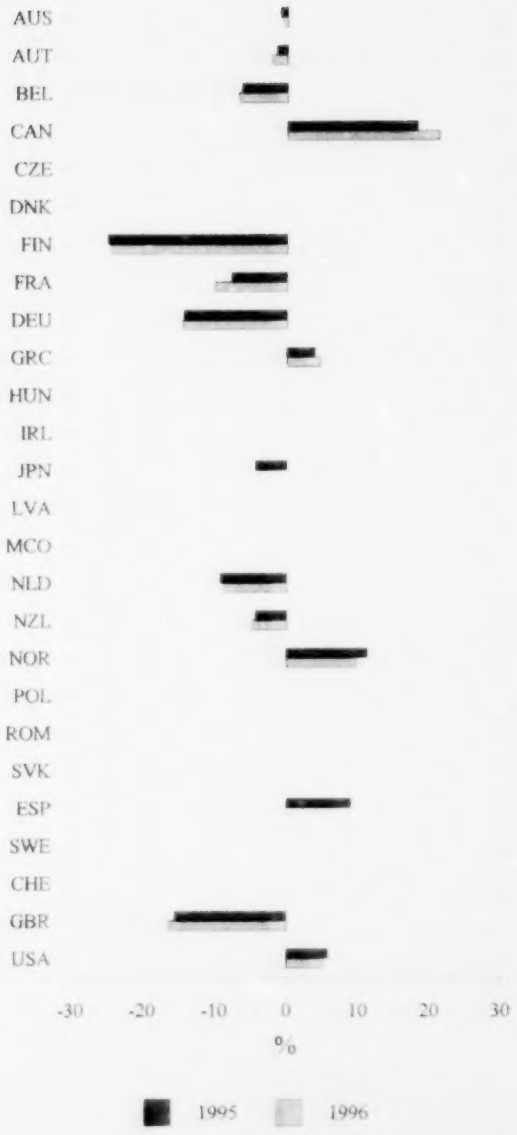
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.10. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
5 292	5 308	100	AUS
578	574	99	AUT
594	591	99	BEL
3 900	4 000	103	CAN
	573		CZE
	425		DNK
269	270	100	FIN
2 786	2 712	97	FRA
4 734	4 724	100	DEU
454	457	101	GRC
789	813	103	HUN
814	800	98	IRL
1 482			JPN
	93		LVA
0	0	102	MCO
1 173	1 179	101	NLD
1 601	1 593	99	NZL
492	485	99	NOR
	2 252		POL
			ROM
310	314	101	SVK
2 370			ESP
	297		SWE
	228		CHE
3 751	3 712	99	GBR
31 334	31 138	99	USA

Figure B.10.



Percentage change in total CH_4 emissions in 1995 and 1996, relative to 1990

Table B.11. CH_4 fugitive fuel emissions, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	1 108	98	102	98	99	102	103
Austria	4	105	102	109	112	121	130
Belgium	53	93	83	82	84	63	63
Canada	1 200	100	108	117	125	133	142
Czech Republic[a]							
Denmark[a]							
Finland[b]	1					100	125
France	311	98	99	101	100	100	85
Germany	1 560	94	94	86	78	75	74
Greece	44	102	106	105	109	111	115
Hungary[a]							
Ireland[a]							
Japan[c]	166	103	105	104	102	101	
Latvia[a]							
Monaco[d]							
Netherlands	179	105	91	88	94	97	107
New Zealand	25	89	89	88	93	110	126
Norway	20	105	125	135	145	145	135
Poland[a]							
Romania[e]	1 416	69	65	63	60		
Slovakia[a]							
Spain[f]	687	94	97	95	90	92	
Sweden[a,g]							
Switzerland[a]							
United Kingdom	1 319	100	97	75	60	62	61
United States of America	10 172	99	98	94	94	96	93

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] CH_4 estimates were only provided for 1990-1995.

[d] The Party did not provide estimates but indicated that emissions were negligible.

[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

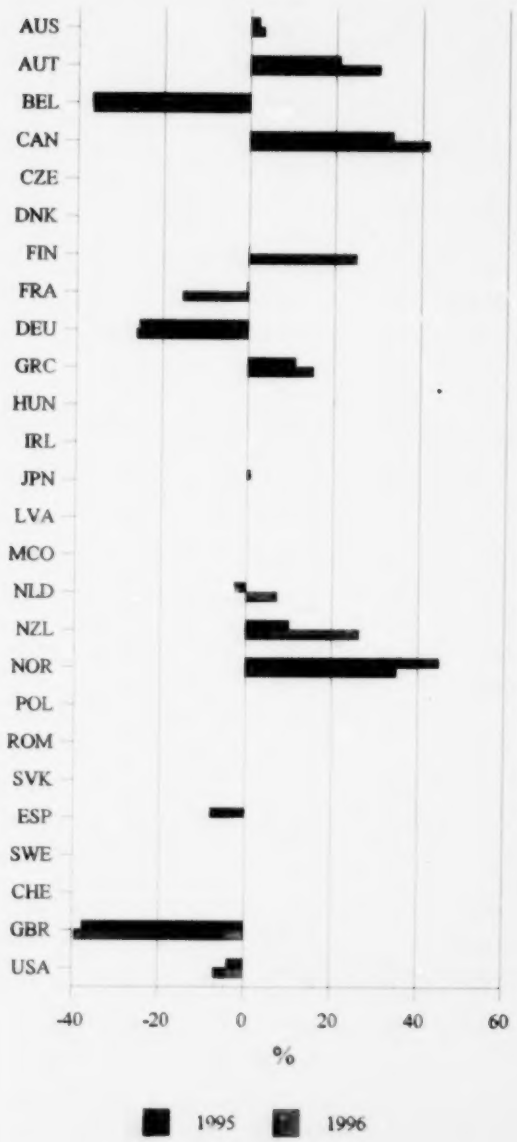
[f] The Party did not provide 1996 estimates.

[g] The Party did not report estimates from this source category.

Table B.11. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
1 130	1 143	101	AUS
5	6	108	AUT
34	34	100	BEL
1 600	1 700	106	CAN
	301		CZE
	17		DNK
1	2	125	FIN
310	263	85	FRA
1 163	1 155	99	DEU
49	51	104	GRC
398	425	107	HUN
11	12	110	IRL
167			JPN
	19		LVA
			MCO
174	192	110	NLD
27	31	115	NZL
29	27	93	NOR
	943		POL
			ROM
114	119	104	SVK
629			ESP
			SWE
	13		CHE
822	800	97	GBR
9 771	9 471	97	USA

Figure B.11.



Percentage change in CH_4 fugitive fuel emissions in 1995 and 1996, relative to 1990

Table B.12. CH_4 emissions from agriculture, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
	(Gg)	**%**	**%**	**%**	**%**	**%**	**%**
Australia	3 200	100	98	98	97	97	97
Austria	208	96	97	98	100	100	99
Belgium	388	99	99	100	100	92	91
Canada	950	101	100	103	105	116	116
Czech Republic[a]							
Denmark[a]							
Finland[b]	94					88	88
France	1 630	98	96	95	95	96	96
Germany	1 887	88	84	83	83	82	82
Greece	271	100	99	100	102	103	103
Hungary[a]							
Ireland[a]							
Japan[c]	842	100	101	102	101	99	
Latvia[a]							
Monaco[d]							
Netherlands	505	102	100	98	96	94	94
New Zealand	1 492	98	96	96	96	96	96
Norway	102	102	104	102	106	107	107
Poland[a]							
Romania[e]	635	77	68	58	56		
Slovakia[a]							
Spain[f]	926	100	102	102	103	103	
Sweden[a]							
Switzerland[a]							
United Kingdom	1 090	98	98	97	98	97	98
United States of America	8 700	101	105	105	108	109	107

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] CH_4 estimates were only provided for 1990-1995.

[d] The Party did not provide estimates but indicated that emissions were negligible.

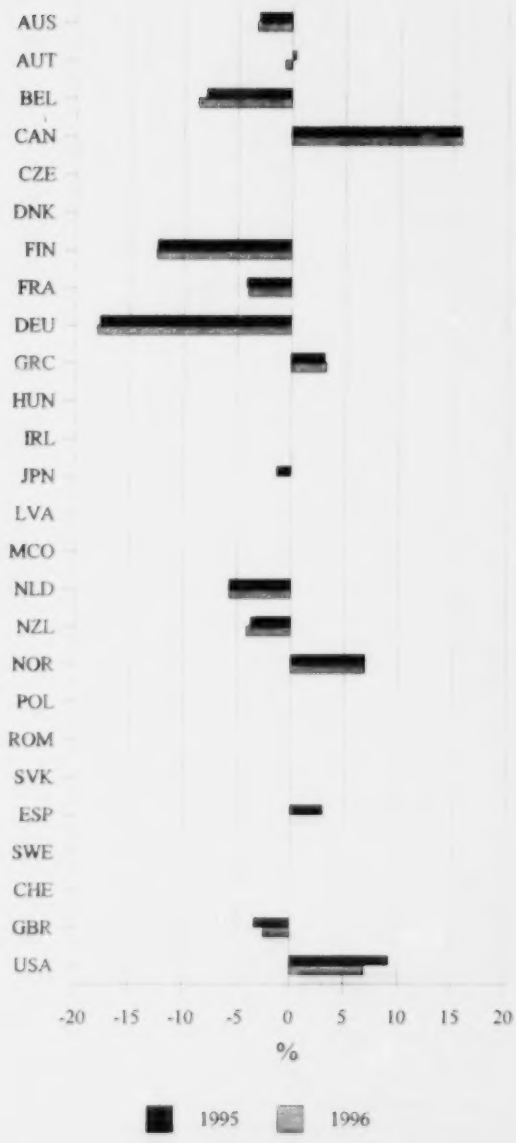
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.12. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
3 105	3 096	100	AUS
209	207	99	AUT
357	354	99	BEL
1 100	1 100	100	CAN
	134		CZE
	321		DNK
82	82	100	FIN
1 564	1 565	100	FRA
1 553	1 547	100	DEU
279	280	100	GRC
115	113	99	HUN
637	655	103	IRL
831			JPN
	42		LVA
			MCO
476	476	100	NLD
1 438	1 431	100	NZL
109	109	100	NOR
	591		POL
			ROM
115	109	95	SVK
949			ESP
	198		SWE
	142		CHE
1 054	1 064	101	GBR
9 500	9 300	98	USA

Figure B.12.



Percentage change in CH_4 emissions from agriculture in 1995 and 1996, relative to 1990

Table B.13. CH_4 emissions from waste, 1990-1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	704	102	104	107	109	110	113
Austria	227	99	99	98	97	97	96
Belgium	174	102	104	105	106	107	107
Canada	850	104	106	108	109	109	111
Czech Republic[a]							
Denmark[a]							
Finland[b]	240					67	67
France	815	98	94	86	84	80	74
Germany	1 870	97	101	101	102	102	102
Greece	109	101	102	102	103	103	103
Hungary[a]							
Ireland[a]							
Japan[c]	394	97	95	94	94	95	
Latvia[a]							
Monaco[d]	0						
Netherlands	568	99	96	93	90	85	82
New Zealand	141	101	98	96	91	85	81
Norway	302	100	102	100	105	111	108
Poland[a]							
Romania[e]	241	95	94	94	95		
Slovakia[a]							
Spain[f]	491	103	116	129	139	146	
Sweden[a]							
Switzerland[a]							
United Kingdom	1 923	98	98	96	95	93	91
United States of America	10 000	102	103	106	110	113	116

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] CH_4 estimates were only provided for 1990-1995.

[d] The trend in emissions is not shown here as estimates reported were approximately zero (-0.02 Gg, 1990 to 1996).

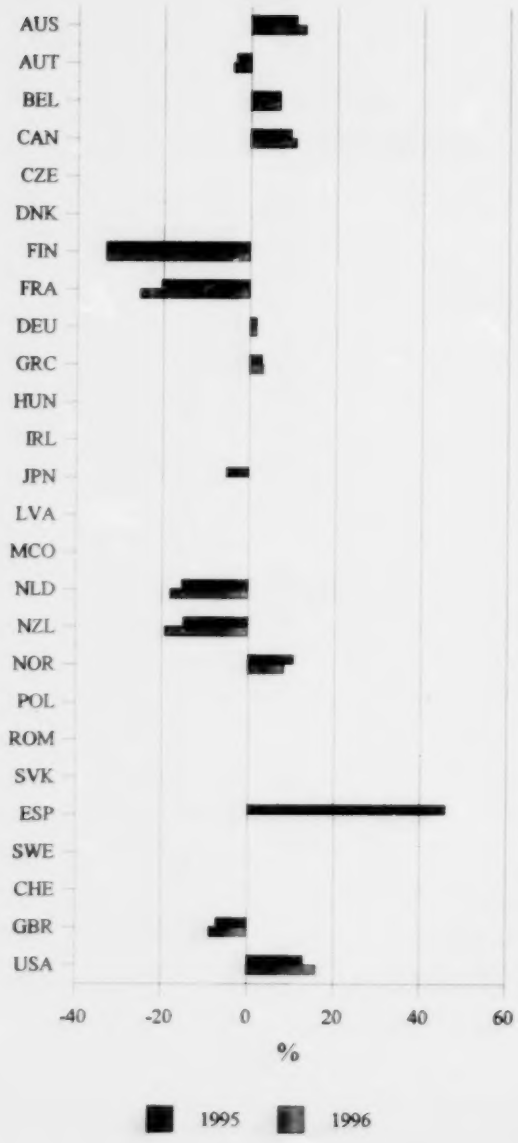
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.13. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
778	794	102	AUS
220	218	99	AUT
186	186	100	BEL
930	940	101	CAN
	97		CZE
	73		DNK
160	160	100	FIN
649	607	94	FRA
1 900	1 900	100	DEU
112	113	100	GRC
255	254	100	HUN
136	102	75	IRL
374			JPN
	26		LVA
0	0	100	MCO
481	466	97	NLD
120	114	95	NZL
334	327	98	NOR
	652		POL
			ROM
63	69	110	SVK
719			ESP
	61		SWE
	66		CHE
1 784	1 754	98	GBR
11 300	11 600	103	USA

Figure B.13.



Percentage change in CH_4 emissions from waste in 1995 and 1996, relative to 1990

Table B.14. Total anthropogenic N_2O emissions, 1990 - 1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	74.9	101	101	103	103	106	105
Austria	9.2	103	103	105	108	109	109
Belgium	30.8	100	97	99	105	113	114
Canada	190.0	100	100	105	116	116	121
Czech Republic[a]							
Denmark[a]							
Finland[b]	18.6					98	99
France	308.7	99	95	91	93	95	96
Germany	226.0	97	100	96	97	98	101
Greece	29.9	100	96	96	97	94	98
Hungary[a]							
Ireland[a]							
Japan[c]	61.0	96	96	99	100	103	
Latvia[a]							
Monaco[d]	0.0						
Netherlands	63.9	103	106	106	110	113	113
New Zealand	37.1	99	99	100	101	101	101
Norway	18.0	100	83	94	94	94	100
Poland[a]							
Romania[e]	66.3	37	41	40	38		
Slovakia[a]							
Spain[f]	94.2	98	97	92	93	96	
Sweden[a]							
Switzerland[a]							
United Kingdom	215.0	97	86	81	88	85	88
United States of America	1 136.0	101	103	102	110	106	108

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] N_2O estimates were only provided for 1990-1995.

[d] The trend in emissions is not shown here as estimates reported were approximately zero (0.005-0.009 Gg,1990 to1996).

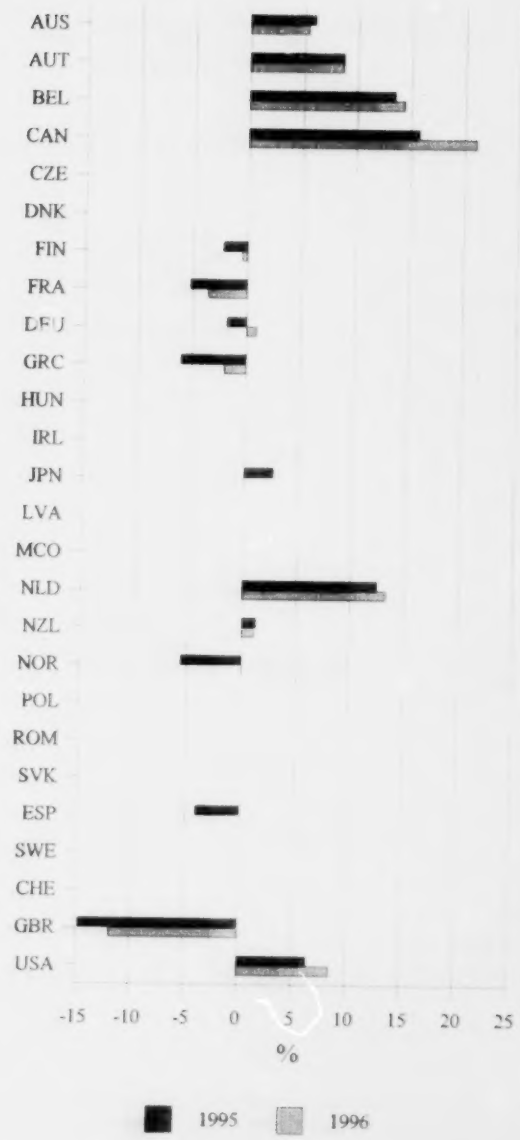
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.14. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
79.4	78.9	99	AUS
10.0	10.0	100	AUT
34.9	35.2	101	BEL
220.0	230.0	105	CAN
	29.1		CZE
	33.9		DNK
18.2	18.5	102	FIN
292.7	297.4	102	FRA
222.0	228.0	103	DEU
28.1	29.3	104	GRC
4.9	5.1	103	HUN
26.2	26.2	100	IRL
62.7			JPN
	16.3		LVA
0.0	0.0	113	MCO
71.9	72.4	101	NLD
37.6	37.5	100	NZL
17.0	18.0	106	NOR
	53.9		POL
			ROM
7.6	7.9	104	SVK
90.5			ESP
	10.1		SWE
	11.8		CHE
183.3	189.3	103	GBR
1 209.0	1 232.0	102	USA

Figure B.14.



Percentage change in total N_2O emissions in 1995 and 1996, relative to 1990

Table B.15. N_2O emissions from fuel combustion, 1990 - 1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	7.7	110	125	138	150	163	173
Austria	1.9	116	116	126	137	147	147
Belgium	7.7	105	106	106	109	103	102
Canada	37.0	105	116	130	143	151	159
Czech Republic[a]							
Denmark[a]							
Finland[b]	5.5					115	125
France	14.8	108	107	107	113	121	130
Germany	37.0	108	108	116	114	122	124
Greece	6.7	107	106	106	106	110	116
Hungary[a]							
Ireland[a]							
Japan[c]	22.1	100	100	109	98	108	
Latvia[a]							
Monaco[d]	0.0						
Netherlands	5.3	106	117	126	130	149	160
New Zealand	0.6	100	105	108	112	116	118
Norway	2.0	100	100	100	100	150	150
Poland[a]							
Romania[e]	16.6	70	80	78	76		
Slovakia[a]							
Spain[f]	20.2	100	106	100	108	115	
Sweden[a]							
Switzerland[a]							
United Kingdom	15.5	102	102	106	114	122	132
United States of America	244.0	100	100	100	100	101	102

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] N_2O estimates were only provided for 1990-1995.

[d] The trend in emissions is not shown here as estimates reported were approximately zero (0.003-0.006 Gg,1990 to1996).

[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.15. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
12.6	13.4	106	AUS
2.8	2.8	100	AUT
8.0	7.9	99	BEL
56.0	59.0	105	CAN
	4.2		CZE
	3.1		DNK
6.3	6.9	110	FIN
17.8	19.2	108	FRA
45.0	46.0	102	DEU
7.4	7.8	105	GRC
3.3	3.4	103	HUN
3.6	3.7	103	IRL
23.8			JPN
	0.4		LVA
0.0	0.0	100	MCO
7.9	8.5	108	NLD
0.7	0.7	102	NZL
3.0	3.0	100	NOR
	7.2		POL
			ROM
0.7	0.9	129	SVK
23.3			ESP
	7.1		SWE
	2.1		CHE
18.9	20.5	109	GBR
246.0	248.0	101	USA

Figure B.15.

Percentage change in N_2O emissions from fuel combustion in 1995 and 1996, relative to 1990

Table B.16. N_2O emissions from transport, 1990 - 1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	5.2	113	138	155	173	190	204
Austria	1.0	130	150	160	180	180	180
Belgium	0.9	97	108	118	129	122	122
Canada	29.0	110	121	138	155	166	176
Czech Republic[a]							
Denmark[a]							
Finland[b]	1.7					106	106
France	4.0	106	113	127	153	178	202
Germany	11.0	127	136	155	164	191	200
Greece	0.6	117	150	150	167	167	183
Hungary[a]							
Ireland[a]							
Japan[c]	12.9	104	106	106	107	111	
Latvia[a]							
Monaco[d]	0.0						
Netherlands	4.6	107	120	133	143	157	170
New Zealand	0.4	101	106	110	117	126	128
Norway[e]	0.0						
Poland[a]							
Romania[f]	0.3	101					
Slovakia[a]							
Spain[g]	2.0	102	105	119	132	150	
Sweden[a]							
Switzerland[a]							
United Kingdom	4.2	104	114	140	175	209	243
United States of America	200.0	100	100	100	100	100	100

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] N_2O estimates were only provided for 1990-1995.

[d] The trend in emissions is not shown here as estimates reported were approximately zero (0.001-0.003 Gg, 1990 to 1996).

[e] The trend in emissions is not shown here as estimates reported for the year 1990 and 1991 were zero.

[f] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[g] The Party did not provide 1996 estimates.

Table B.16. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
9.8	10.5	107	AUS
1.8	1.8	100	AUT
1.1	1.1	100	BEL
48.0	51.0	106	CAN
	1.8		CZE
	1.1		DNK
1.8	1.8	100	FIN
7.1	8.0	113	FRA
21.0	22.0	105	DEU
1.0	1.1	110	GRC
			HUN
0.6	0.6	100	IRL
14.3			JPN
	0.3		LVA
0.0	0.0	100	MCO
7.2	7.8	108	NLD
0.4	0.5	102	NZL
1.0	1.0	100	NOR
	1.4		POL
			ROM
0.3	0.4	133	SVK
3.0			ESP
	1.7		SWE
	1.9		CHE
8.8	10.2	117	GBR
200.0	200.0	100	USA

Figure B.16.

Percentage change in N_2O emissions from transport in 1995 and 1996, relative to 1990

Table B.17. N_2O emissions from industrial processes, 1990 - 1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	1.6	93	113	99	86	86	97
Austria	0.6	100	83	100	100	83	83
Belgium	11.5	97	88	95	107	120	122
Canada	37.0	95	95	86	103	100	108
Czech Republic[a]							
Denmark[a]							
Finland[b]	3.0					87	87
France	90.0	97	92	83	86	89	90
Germany	83.0	100	112	101	98	99	105
Greece	2.3	83	87	83	78	78	78
Hungary[a]							
Ireland[a]							
Japan[c]	23.8	91	90	88	100	99	
Latvia[a]							
Monaco[d]							
Netherlands	31.5	103	97	95	100	100	100
New Zealand[e]							
Norway	7.0	86	57	71	71	71	71
Poland[a]							
Romania[f]	24.4	26	28	27	23		
Slovakia[a]							
Spain[g]	10.4	92	78	64	77	81	
Sweden[a]							
Switzerland[a]							
United Kingdom	95.3	94	76	64	76	69	74
United States of America	96.0	102	98	103	110	110	113

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] N_2O estimates were only provided for 1990–1995.

[d] The Party did not provide estimates but indicated that emissions were negligible.

[e] The Party indicated that N_2O emissions from this source category are not occurring in the country.

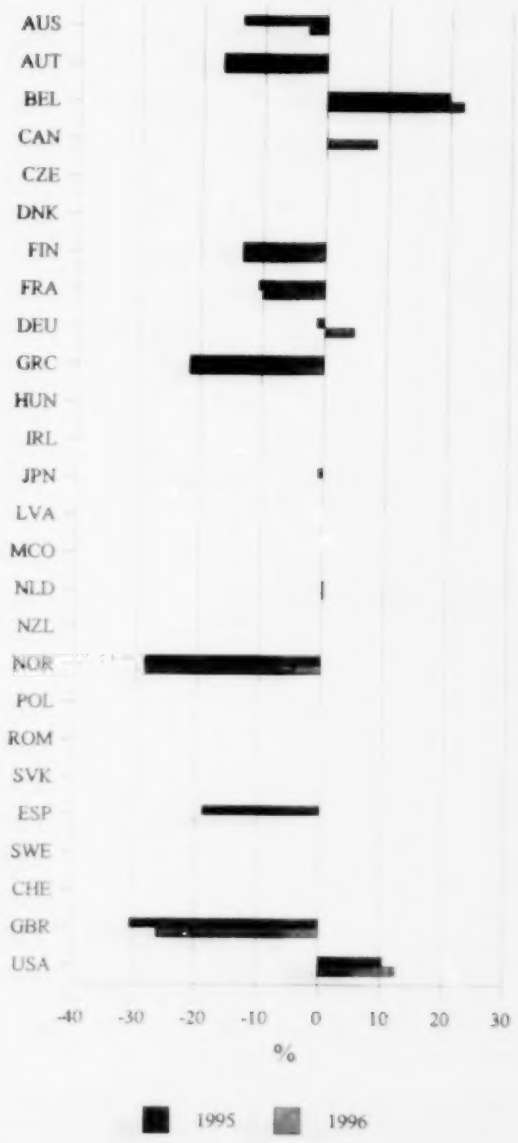
[f] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[g] The Party did not provide 1996 estimates.

Table B.17. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
1.4	1.6	112	AUS
0.5	0.5	100	AUT
13.8	14.0	102	BEL
37.0	40.0	108	CAN
	3.3		CZE
	0.0		DNK
2.6	2.6	100	FIN
80.4	81.1	101	FRA
82.0	87.0	106	DEU
1.8	1.8	100	GRC
0.0	0.0	0	HUN
2.6	2.6	100	IRL
23.6			JPN
	0.0		LVA
			MCO
31.6	31.6	100	NLD
			NZL
5.0	5.0	100	NOR
	16.2		POL
			ROM
1.1	1.1	100	SVK
8.4			ESP
	2.8		SWE
	0.3		CHE
66.1	70.3	106	GBR
106.0	108.0	102	USA

Figure B.17.



Percentage change in N_2O emissions from industrial processes in 1995 and 1996, relative to 1990

Table B.18. N_2O emissions from agriculture, 1990 - 1996 (Gigagrams and percentage)

	Percentage relative to 1990, 1990=100						
	1990	1991	1992	1993	1994	1995	1996
	(Gg)	%	%	%	%	%	%
Australia	63.0	100	98	100	99	101	99
Austria	3.3	100	100	100	100	100	100
Belgium	10.9	100	100	98	99	90	90
Canada	110.0	100	100	100	109	109	118
Czech Republic[a]							
Denmark[a]							
Finland[b]	10.1					92	89
France	181.1	98	95	93	94	95	96
Germany	96.0	91	86	84	90	89	89
Greece	20.6	100	95	94	96	90	95
Hungary[a]							
Ireland[a]							
Japan[c]	9.3	98	98	97	95	92	
Latvia[a]							
Monaco[d]							
Netherlands	22.2	103	118	118	119	124	124
New Zealand	36.3	99	99	100	101	101	101
Norway	9.0	100	100	100	100	100	100
Poland[a]							
Romania[e]	25.3	27	27	27	27		
Slovakia[a]							
Spain[f]	63.5	99	97	94	91	92	
Sweden[a]							
Switzerland[a]							
United Kingdom	103.8	99	96	92	94	94	95
United States of America	770.0	102	105	103	113	106	110

[a] As estimates for 1990 (or base year other than 1990 for some EIT Parties) were not provided in the annual inventory submissions, and no indication as to the methodological consistency with estimates provided in second national communications was made, no trends are shown in this table.

[b] The Party only provided estimates for the years 1990, 1995 and 1996.

[c] N_2O estimates were only provided for 1990-1995.

[d] The Party did not provide estimates but indicated that emissions were negligible.

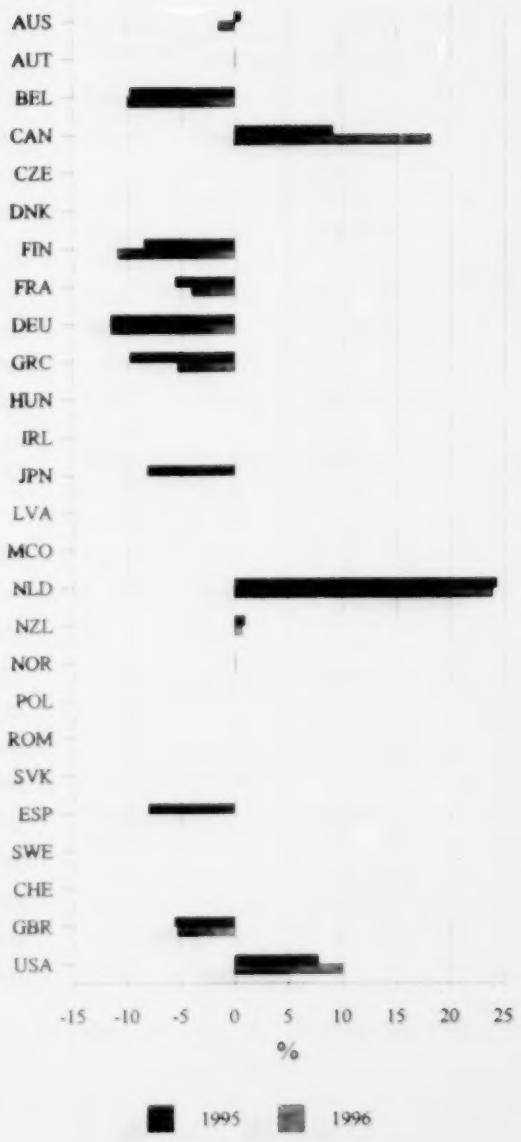
[e] In accordance with decision 9/CP.2, Romania uses the year 1989 as its base year. Estimates were only provided for 1989 to 1994. The trend shown here may not be fully consistent, as the Party noted that estimates provided for the period 1992-1994 need to be updated according to the IPCC methodology, as had been done for estimates for the 1989-1991 period.

[f] The Party did not provide 1996 estimates.

Table B.18. (continued)

Last reported values		1996 to1995 percentage 1995=100	
1995	1996		
(Gg)	(Gg)	(%)	
63.4	62.0	98	AUS
3.3	3.3	100	AUT
9.8	9.8	100	BEL
120.0	130.0	108	CAN
	20.6		CZE
	30.2		DNK
9.3	9.0	97	FIN
171.1	173.7	102	FRA
85.0	85.0	100	DEU
18.6	19.5	105	GRC
1.6	1.7	104	HUN
19.1	19.0	99	IRL
8.5			JPN
	15.6		LVA
			MCO
27.6	27.5	100	NLD
36.6	36.5	100	NZL
9.0	9.0	100	NOR
	30.5		POL
			ROM
5.4	5.5	102	SVK
58.6			ESP
	0.2		SWE
	8.7		CHE
98.0	98.3	100	GBR
830.0	848.0	102	USA

Figure B.18.



Percentage change in N_2O emissions from agriculture in 1995 and 1996, relative to 1990

Table C.1. Projected anthropogenic emissions of CO_2, excluding land-use change and forestry, until 2020 (Gigagrams)

	Base level (1990)[a]		Last reported inventory[b]	Projection and percentage deviation relative to the projection base level			
				2000		2005	
	Inventory	Projection					
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	275 344	262 600	308 413	311 200	19	336 500	28
Austria	62 100	61 880	65 000	57 300	-7	57 500	-7
Belgium[c]	116 090	115 800	128 546	125 200	8	133 300	15
Canada	460 899	463 700	508 574	500 600	8	522 900	13
Czech Republic		167 000	132 538	139 000	-17	153 000	-8
Denmark		[59 958]	73 236	54 309	-9	50 547	-16
Finland	59 200	53 800	66 340	(58 000) - (60 000)	(8 - 12)		
France	390 708	[379 901]	406 666	372 934	-2		
Germany	1 014 155	1 014 000	910 000	894 000	-12	867 000	-14
Greece	85 349	76 834	91 978	89 120	16	92 090	20
Hungary		83 676	60 475	-64 300	-23		
Ireland		30 719	34 819	34 998	14	38 228	24
Japan	1 124 532	1 125 000	1 234 904				
Latvia		24 906	11 065	12 274	-51	11 067	-56
Monaco	108		141				
Netherlands	161 360	[173 000]	184 870	173 500	0	181 000	5
New Zealand	25 241	25 476	29 008	31 080	22	33 570	32
Norway	35 457	36 000	41 073	44 000	22	47 000	31
Poland		484 000	372 530	425 000	-12		
Romania[d]	194 826	194 826	125 597	150 807	23	156 432	20
Slovakia		59 752	46 105	(44 780) - (46 178)	(-25) - (-23)	(49 142) - (51 919)	(-18) - (-13)
Spain	226 423	226 423	247 703	258 247	14		
Sweden[e]		[58 500]	63 350	60 100	3	62 100	6
Switzerland		[47 100]	44 970	43 900	-7	44 700	-5
United Kingdom	583 165	580 000	563 450	550 000	-5	593 000	2
United States of America	4 943 300	4 960 000	5 393 883	5 627 310	13	5 863 990	18

[a] Differences between the inventory base level and the projection base level are, for example, due to revisions of inventories, rounding, calibration of models, or the projection of only a subset of the sources. For some Parties (Denmark, France, Netherlands, Sweden and Switzerland) differences are also due to temperature adjustments. Base year values for projections that have been subject to temperature adjustments are put in brackets. Inventory figures are from tables A.3 and A.4.

[b] All Parties reported their last inventory for 1996, with the exception of Romania and Spain whose most recent reported inventories were for 1994 and 1995 respectively.

[c] Belgium also provided a projection base level adjusted for temperature which had a value of 121,100 Gg.

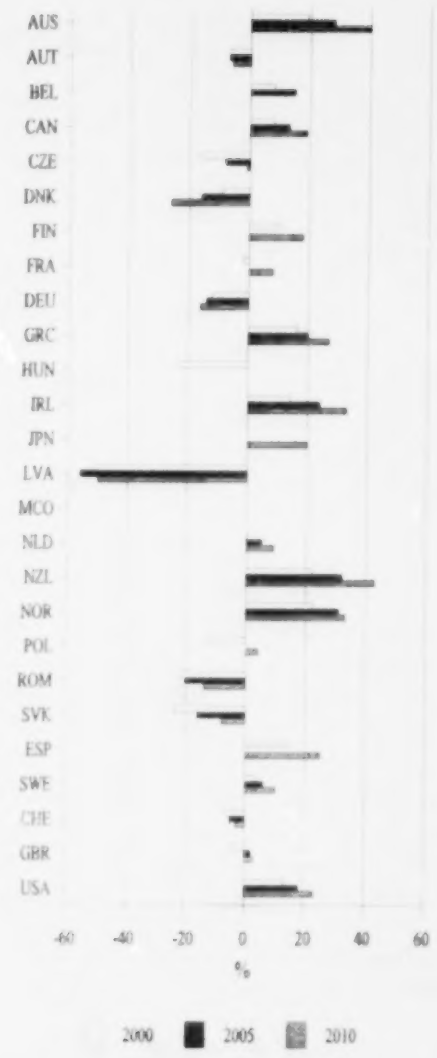
[d] Romania provided projections for the year 1995. Total CO_2 emissions were projected to be 130,823 Gg in 1995, which corresponds to a decrease of 33 per cent relative to the base year.

[e] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

Table C.1. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
366 800	40	431 100	64	AUS
58 300	-6			AUT
				BEL
549 900	19	628 300	35	CAN
166 000	-1			CZE
44 660	-26	34 158	-43	DNK
(56 000) -	(4 - 32)	(49 000) -	(-9) - (49)	FIN
(71 000)		(80 000)		
411 621	8	(453 975) -	(19 - 45)	FRA
		(550 417)		
854 000	-16	847 000	-16	DEU
97 680	27			GRE
				HUN
40 775	33			IRE
1 353 000	20			JPN
12 566	-50	13 936	-44	LAT
				MON
188 000	9	202 000	17	NLD
36 310	43	43 560	71	NZL
48 000	33	46 000	28	NOR
502 000	4			POL
167 656	-14			ROM
(53 220) -	(-11) - (-5)			SLO
(36 519)				
282 440	25			ESP
64 300	10	-80 000	-37	SWE
45 700	3			CHE
595 000	3	682 000	18	GBR
6 118 554	23	6 496 512	31	USA

Figure C.1.



Percentage change in projected CO_2 emissions, excluding land-use change and forestry, in 2000, 2005 and 2010, relative to the base year

Table C.2. CO_2 projections in land-use change and forestry until 2020 (Gigagrams)[a]

	Base level (1990)[b]		Last reported inventory[c]	Projection and percentage deviation relative to the projection base level			
	Inventory	Projection		2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	-58 873	-23 100	-36 260	-29 000	-26	-29 300	-27
Austria	-13 300		-13 800				
Belgium	-2 057	-2 057	-2 057	-2 057	0	-2 057	0
Canada	-44 000		-29 000				
Czech Republic		-2 000	-4 479	-5 000	150	-5 000	150
Denmark		-924	-24	-1 056	13	-1 128	-22
Finland[d]		-24 500		(-17 000) – (-12 000)	(31) - (51)		
France	-30 316	-35 203	-41 249	-53 538	-52		
Germany	-30 000		-35 900				
Greece							
Hungary			-3 931				
Ireland		-5 160	-6 497	-7 580	-47	-8 630	-67
Japan	-83 903	-83 341	-96 705	-67 192	19	-59 762	28
Latvia		-10 844	-14 320				
Monaco							
Netherlands	-1 500	-1 500	-1 700	-1 700	-13	-1 700	-13
New Zealand	-21 513	-20 569	-16 530	-18 944	8	-20 807	-1
Norway	-9 590	-9 400	-17 611	-11 000	-17	-12 900	-37
Poland			-42 617				
Romania[e]	-2 925	-2 925	-6 590	-23 041	-688	-25 000	-755
Slovakia		-4 257	-5 281	-5 227	23		
Spain		-28 970		-28 970	0	-28 970	0
Sweden[f]		-34 000	-32 296	-29 000	15	-26 000	24
Switzerland		-4 360	-5 200	-5 100	-17	-5 100	-17
United Kingdom	-20 207	-20 600	-11 299	-11 100	-46	-8 900	-57
United States of America	-1 142 200	-458 750	-764 683	-411 040	10	-403 700	12

[a] Negative values in Gg denote removal of CO_2. Positive values denote a net source of emissions. Negative values in percentage denote more removals in 2000 and beyond than in 1990, or a decrease in net emissions.

[b] Differences in 1990 levels between inventories and projections are, for example, due to revisions of inventories, rounding, or the fact that only a subset of the sources was projected. Inventory figures are from table B.6.

[c] All Parties reported their most recent inventory for 1996, with the exception of Romania and Spain, whose most recent reported inventories were for 1994 and 1995, respectively, and Japan, whose last estimates for land-use change and forestry were for 1995.

[d] Deviation relative to the projection base level calculated on the basis of the mean of the range (-30,000) (-19,000) Gg.

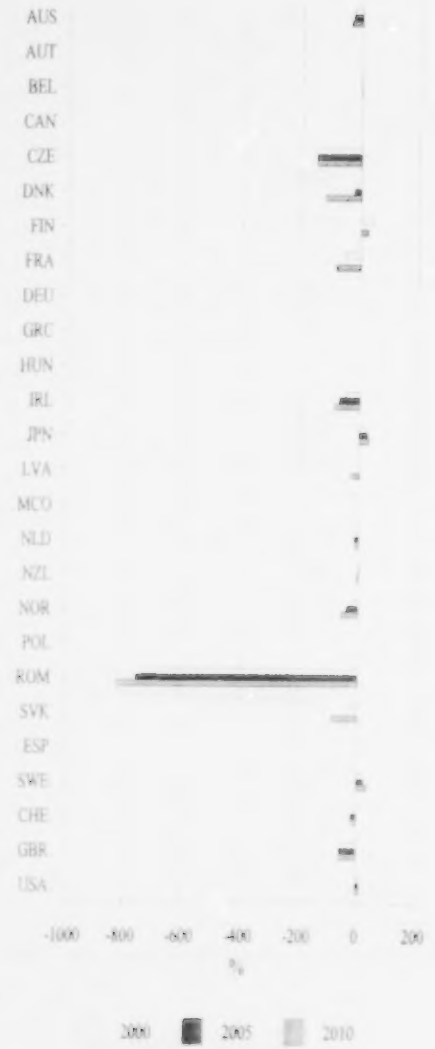
[e] Romania provided projections for the year 1995. Net CO_2 removals were projected to be 18,488 Gg in 1995, which corresponds to an increase of sinks of 532 per cent relative to the base year.

[f] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

Table C.2. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
-31 500	-36	-32 800	-42	AUS
				AUT
-2 057	0	-2 057	0	BEL
				CAN
5 000	150			CZE
-2 063	-123	-2 703	-193	DNK
(-15 000) -	(39) - (10)	(-27 000) -	(-10) - (104)	FIN
(-22 000)		(1 000)		
-64 906	-84			FRA
				DEU
				GRE
				HUN
-9 690	-88			IRE
-55 811	31			JPN
-13 752	27	-12 512	-15	LAT
				MON
-1 700	-13	-1 700	-13	NLD
-21 208	-3	-31 654	-54	NZL
-14 800	-57	-15 700	-67	NOR
				POL
-26 953	-822			ROM
-7 957	-87	-12 397	191	SLO
-28 970	0			ESP
-22 000	35			SWE
-5 100	-17	-5 100	-17	CHE
-8 700	-58	-12 800	-38	GBR
-400 030	13	-348 650	24	USA

Figure C.2.



Percentage change in projected CO_2 emissions (and removals) in land-use change and forestry, in 2000, 2005 and 2010, relative to the base year

Table C.3. Projected anthropogenic emissions of CH_4 until 2020 (Gigagrams)

	Base level (1990)[a]		Last reported inventory[b]	Projection and percentage deviation relative to the projection base level			
	Inventory	Projection		2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	5 345	5 051	5 308	5 306	5	5 499	9
Austria	587	587	574	600	2		
Belgium	634	626	591	530	15	487	22
Canada	3 300	3 148	4 000	3 546	13	3 600	14
Czech Republic		886	573	742	16	864	2
Denmark		424	425	408	4	377	11
Finland	358	246	270	226	8	206	16
France	3 018	2 253	2 712	2 095	7		
Germany	5 522	5 682	4 724	3 892	32	3 004	47
Greece	437		457				
Hungary			813				
Ireland		811	800	837	3	838	3
Japan	1 549	1 575	1 482	1 576	0	1 473	6
Latvia		186	93	95	49	100	46
Monaco	0		0				
Netherlands	1 292	1 067	1 179	788	26	700	34
New Zealand	1 673	1 706	1 593	1 541	10	1 552	9
Norway	442	432	485	414	4	377	13
Poland			2 252				
Romania[c]	2 357	2 357	1 461	1 342	43	1 313	44
Slovakia		401	314	(251 - 401)	(37) - (0)	(237 - 348)	(41) - (13)
Spain	2 181	2 181	2 370	2 356	8		
Sweden[d]		302	297	284	6	271	10
Switzerland		244	228	229	6	211	14
United Kingdom	4 438	4 402	3 712	3 418	22	3 227	27
United States of America	29 628	29 676	31 138	26 186	12	26 534	11

[a] Differences between the inventory base level and the projection base level are due to revisions of inventories, rounding, etc. Inventory figures are from tables A.7 and A.8.

[b] All Parties reported their most recent inventory for 1996, with the exception of Romania and Spain, whose last reported inventories were for 1994 and 1995, respectively, and Japan, whose last CH_4 estimates were for 1995.

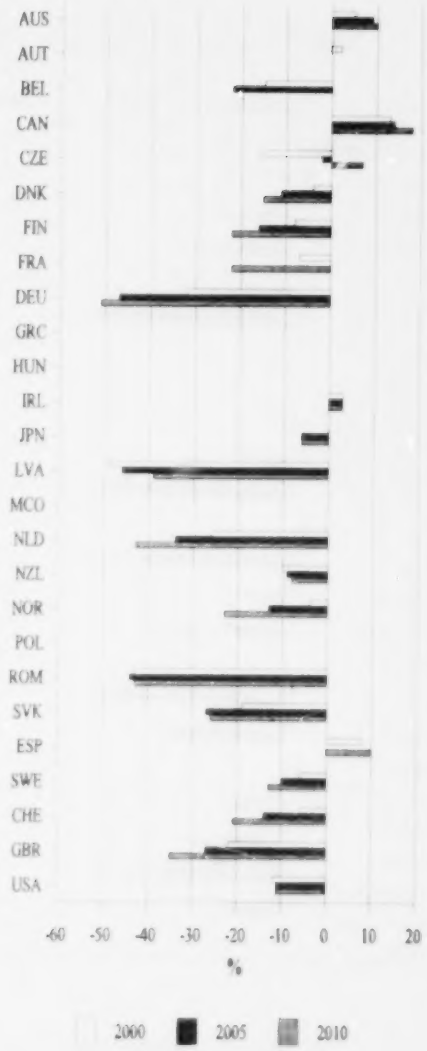
[c] Romania provided projections for the year 1995. Total CH_4 emissions were projected to be 1 260 Gg in 1995, which corresponds to a decrease of 47 per cent relative to the base year.

[d] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

Table C.3. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
5 537	10	5 919	17	AUS
				AUT
				BEL
3 719	18	4 179	33	CAN
951	-7			CZE
362	-15			DNK
191	-22	179	-27	FIN
1 764	-22	1 676	-26	FRA
2 759	-51	2 505	-56	DEU
				GRE
				HUN
839	3			IRE
1 487	-6			JPN
114	-39	143	-23	LAT
				MON
611	-43	594	-44	NLD
1 573	-8	1 604	-6	NZL
332	-23	325	-25	NOR
				POL
1 356	-43			ROM
(224 - 367)	(-44) - (-8)			SLO
2 399	10			ESP
262	-13			SWE
192	-21			CHE
2 852	-35	2 670	-39	GBR
26 534	-11	26 840	-10	USA

Figure C.3.



Percentage change in projected CH_4 emissions, in 2000, 2005 and 2010, relative to the base year

Table C.4. Projected anthropogenic emissions of N_2O until 2020 (Gigagrams)

	Base level (1990)[a]		Last reported inventory[b]	Projection and percentage deviation relative to the projection base level			
	Inventory	Projection		2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	74.9	75.0	78.9	86.0	15	91.0	21
Austria[c]	9.2		10.0				
Belgium	30.8	27.9	35.2	30.4	9	32.5	16
Canada	190.0	86.0	230.0	74.0	-14	77.1	-10
Czech Republic		25.0	29.1	22.0	-12	24.0	-4
Denmark		34.0	33.9	28.0	-18	28.0	-18
Finland	18.6	18.0	18.5	21.5	19	(23 - 25)	(28 - 39)
France	308.7	154.0	297.4	80.3	-48		
Germany	226.0	226.0	228.0	162.0	-28	159.0	-30
Greece	29.9		29.3				
Hungary			5.1				
Ireland		29.4	26.2	26.0	-12	26.1	-11
Japan	61.0	105.3	62.7	121.4	15	127.4	21
Latvia		23.0	16.3	15.0	-35	15.0	-35
Monaco	0.0		0.0				
Netherlands	63.9	62.6	72.4	65.2	4	67.0	7
New Zealand	27.1	42.5	37.5	46.0	-3	45.6	-4
Norway	18.0	15.5	18.0	16.0	-5	16.5	-8
Poland			53.9				
Romania[d]	66.3	66.3	25.0	24.2	-63	24.7	-63
Slovakia		10.9	7.9	(6.8 - 10.6)	(-38) - (-3)	(6.9 - 11.7)	(-37) - (7)
Spain	94.2	94.0	90.5	94.0	0		
Sweden[e]		9.3	10.1	10.5	13	11.5	24
Switzerland		11.5	11.8	11.7	2	11.6	1
United Kingdom	215.0	111.7	189.3	42.9	-62	48.5	-57
United States of America	1 136.0	426.0	1 232.0	367.0	-14	378.0	-11

[a] Differences between the inventory base level and the projection base level are due to revisions of inventories, rounding, etc. Inventory figures are from tables A.9 and A.10.

[b] All Parties reported their last inventory for 1996, with the exception of Romania and Spain whose most recent reported inventories were for 1994 and 1995, respectively, and Japan, whose last N_2O estimates were for 1995.

[c] Austria stated that reliable projections for 2000 and beyond cannot be presented because of revised emission factors; the existing emission projections for N_2O no longer agree with the emissions reported for 1990 and 1995 (p. 146).

[d] Romania provided projections for the year 1995. Total N_2O emissions were projected to be 21.9 Gg in 1995, which corresponds to a decrease of 67 per cent relative to the base year.

[e] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

Table C.4. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
93.0	24	101.0	35	AUS
				AUT
				BEL
81.3	-6	88.3	3	CAN
26.0	4			CZE
28.0	-18			DNK
(24 - 25)	(33 - 39)	(23 - 26)	(28 - 44)	FIN
90.8	-41	101.3	-34	FRA
157.0	-31	156.0	-31	DEU
				GRE
				HUN
26.1	-11			IRE
130.9	24			JPN
17.0	-26	18.0	-22	LAT
				MON
68.1	9	70.1	12	NLD
45.7	-4	45.7	-4	NZL
16.9	10	17.7	16	NOR
				POL
25.8	-61			ROM
(7.4 - 12.0)	(-32) - (10)			SLO
94.0	0			ESP
12.7	37			SWE
11.3	-2			CHE
50.8	-55.0	53.3	-52	GBR
402.0	-6.0	402.0	-6	USA

Figure C.4.

Percentage change in projected N_2O emissions, in 2000, 2005 and 2010, relative to the base year

Table C.5.1. Projected emissions of HFCs until 2020 (Gigagrams, CO_2 equivalent)[a]

	Base level (1990)		Last reported inventory[b]	Projection and percentage deviation relative to the projection base level			
	Inventory	Projection		2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia							
Austria			712				
Belgium			533				
Canada[c]		500	500	2 000	300	4 000	700
Czech Republic			222				
Denmark			300				
Finland[c,d]	200	79	380	130	65	156	97
France	2 232		2 325				
Germany	2 340	2 340	3 593	6 336	171	10 388	344
Greece	935		3 746				
Hungary							
Ireland							
Japan	17 564		34 433				
Latvia							
Monaco							
Netherlands	4 900	4 880	7 200	4 763	-2	5 767	18
New Zealand[c,d]		183	297	213	16	247	35
Norway	0	244	268	800	300	1 300	550
Poland			68				
Romania							
Slovakia							
Spain							
Sweden[c]		200		800	300	900	350
Switzerland			413				
United Kingdom[e]	12 180	12 645	15 358	4 651	63	(4 556 - 8 212)	(-351 - 64)
United States of America[f]	35 809		66 824				

[a] Estimates based on IPCC 1995 GWPs, with a time-horizon of 100 years.

[b] All Parties providing HFC estimates reported their last inventory for 1996. Inventory figures are from table A.1.1.

[c] Canada, Finland, New Zealand and Sweden used 1995 as base level for the HFC projections.

[d] Finland and New Zealand only reported aggregate projection data for HFCs in full mass units (Gg). The secretariat therefore assumed that all these emissions were HFC-134a.

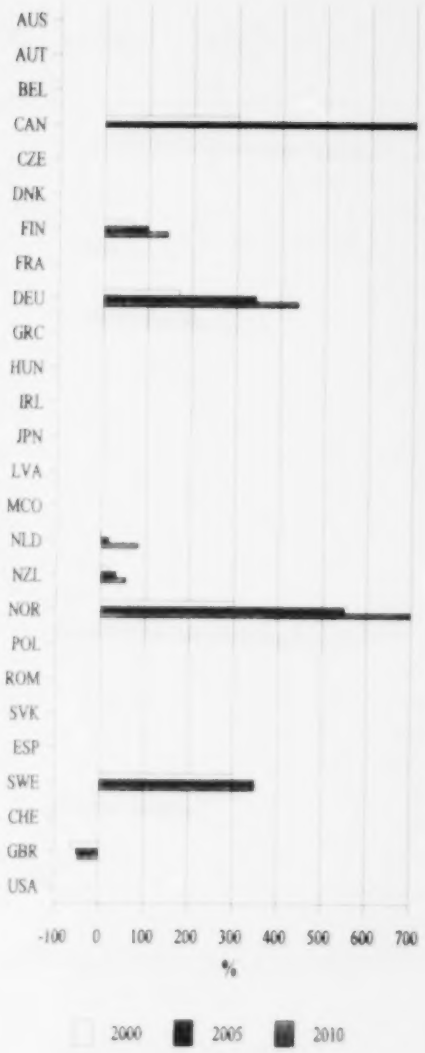
[e] The estimate for 2000 is the value based on the mid point of the projected range for HFCs.

[f] Projections of HFCs, PFCs and SF_6 were presented together in terms of CO_2 equivalent. The estimates are given in the explanatory notes on page 92.

Table C.5.1. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
				AUS
				AUT
				BEL
7 000	1 300	14 000	2 700	CAN
				CZE
				DNK
195	145	195	145	FIN
				FRA
12 609	439	12 355	428	DEU
				GRE
				HUN
				IRE
				JPN
				LAT
				MON
8 964	84	16 119	230	NLD
287	57	583	219	NZL
1 680	700	1 900	850	NOR
				POL
				ROM
				SLO
				ESP
988	350			SWE
				CHE
(4 307 - 9 262)	(-27)-(-66)			GBR
				USA

Figure C.5.1.



Percentage change in projected HFC emissions, in 2000, 2005 and 2010, relative to the base year

Table C.5.2. Projected emissions of PFCs until 2020 (Gigagrams, CO_2 equivalent)[a]

	Base level (1990)			Projection and percentage deviation relative to the projection base level			
	Inventory	Projection	Last reported inventory[b]	2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	4 860		1 484				
Austria			70				
Belgium			73				
Canada	6 000	7 144	6 000	7 420	4	7 420	4
Czech Republic			4				
Denmark			3				
Finland[c,d]		0.3		0.4	33	0.4	33
France	3 033		1 428				
Germany	2 694	2 694	1 617	799	-70	784	-71
Greece	503		385				
Hungary							
Ireland							
Japan	5 670		15 830				
Latvia							
Monaco							
Netherlands	2 500	2 234	2 300	2 512	12	2 640	18
New Zealand[c]	601	601	262	230	-62	237	-61
Norway	2 546	2 500	1 271	1 300	-48	1 200	-52
Poland			7				
Romania							
Slovakia			320				
Spain							
Sweden		400		500	25	500	25
Switzerland			24				
United Kingdom	2 085	2 087	535	398	81	364	-74
United States of America[e]	18 003		18 401				

[a] Estimates based on IPCC 1995 GWPs with a time horizon of 100 years.

[b] All Parties providing PFC estimates reported their most recent inventory for 1990. Inventory figures are from table A.1.1.

[c] Finland and New Zealand reported only aggregate PFC projection figures in full mass units (Gg). In order to estimate the CO_2 equivalent, the secretariat assumed that approximately 90 per cent was CF_4 and 10 per cent C_2F_6.

[d] Finland used 1995 as base level for the PFC projections. Finland projected PFC emissions but noted that they are small.

[e] Projections of HFCs, PFCs and SF_6 were presented together in terms of CO_2 equivalent. The estimates are given in the explanatory notes on page 92.

Table C.5.2. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
				AUS
				AUT
				BEL
7 420	4	7 420	4	CAN
				CZE
				DNK
0.8	160	0.8	160	FIN
				FRA
784	-71	784	-71	DEU
				GRE
				HUN
				IRE
				JPN
				LAT
				MON
2 776	-24	3 033	-36	NLD
237	-61	251	-58	NZL
1 200	-52	1 200	-52	NOR
				POL
				ROM
				SLO
				ESP
600	-50			SWE
				CHE
672	-68			GBR
				USA

Figure C.5.2.

Percentage change in projected PFC emissions, in 2000, 2005 and 2010, relative to the base year

Table C.5.3. Projected emissions of SF_6 until 2020 (Gigagrams CO_2 equivalent)[a]

	Base level (1990)			Projection and percentage deviation relative to the projection base level			
	Inventory	Projection	Last reported inventory	2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia			15				
Austria			789				
Belgium	333		333				
Canada	3 000	2 868	1 000	1 912	33	1 912	33
Czech Republic			183				
Denmark			134				
Finland[c]	100	96	120	120	25	143	49
France	2 414		2 701				
Germany	3 896	3 896	5 879	4 971	28	4 445	14
Greece							
Hungary							
Ireland							
Japan	38 240		52 580				
Latvia							
Monaco							
Netherlands	1 400	1 386	1 900	1 625	17	1 793	29
New Zealand	25	5	25	7	50	7	50
Norway	2 199	2 200	526	525	76	525	76
Poland							
Romania							
Slovakia							
Spain							
Sweden		1 000		1 200	20	1 200	20
Switzerland			72				
United Kingdom	574	574	837	1 028	79	1 028	79
United States of America[c]	26 744		36 663				

[a] Estimates based on IPCC 1995 GWPs with a time-horizon of 100 years.
[b] All Parties providing SF_6 estimates reported their last inventory for 1996. Inventory figures are from table A.1.1.
[c] Finland used 1995 as base level for the SF_6 projections.
[d] Projections of HFCs, PFCs and SF_6 were presented together in terms of CO_2 equivalent. The estimates are given in the explanatory notes on page 92.

Table C.5.3. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
				AUS
				AUT
				BEL
1 912	-33	1 912	-33	CAN
				CZE
				DNK
143	49	143	49	FIN
				FRA
5 401	39	6 979	79	DEU
				GRE
				HUN
				IRE
				JPN
				LAT
				MON
1 960	41	2 271	64	NLD
10	100	34	610	NZL
600	-72	700	-68	NOR
				POL
				ROM
				SLO
				ESP
1 200	20			SWE
				CHE
1 052	83			GBR
				USA

Figure C.5.3.

Percentage change in projected SF_6 emissions, in 2000, 2005 and 2010, relative to the base year

Table C.6. Projected anthropogenic emissions of all greenhouse gases, excluding land-use change and forestry, until 2020 (Gigagrams, CO_2 equivalent)[a]

	Base level (1990)[b]			Projection and percentage deviation relative to the projection base level			
	Inventory	Projection	Last reported inventory[c]	2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	415 656	410 990	445 840	463 800	13	495 905	21
Austria	77 271		81 723				
Belgium	139 276	137 595	152 797	145 754	6	153 602	12
Canada	598 099	566 480	671 374	609 118	8	635 513	12
Czech Republic		193 356	153 989	161 402	-17	178 594	-8
Denmark		79 402	93 117	71 557	-10	67 144	-15
Finland	72 786	65 546	78 243	69 660	6		
France	557 452	474 946	562 271	441 831	-7		
Germany	1 209 107	1 210 232	1 080 974	1 038 058	-14	994 991	-18
Greece	105 235		114 789				
Hungary			79 130				
Ireland		56 864	59 722	60 625	7	64 486	13
Japan	1 237 446	1 190 718	1 369 311				
Latvia		35 795	18 064	18 919	-47	17 817	-50
Monaco	111		145				
Netherlands	217 107	223 313	243 071	219 160	2	226 670	2
New Zealand	72 499	76 816	74 667	78 151	2	80 789	5
Norway	55 064	54 515	58 903	60 279	11	63 057	16
Poland			436 616				
Romania[d]	264 879	264 879	164 026	* 186 491	-30	191 658	-28
Slovakia		73 064	55 468	55 840	-24	61 875	-15
Spain	301 431	301 364	325 530	336 863	12		
Sweden[e]		68 225	72 723	71 447	5	75 919	8
Switzerland		55 789	53 924	52 336	6	52 727	-5
United Kingdom[f]	757 851	722 375	716 818	641 154	-11	(681 868 - 685	(-6) (-5)
United States of America	5 998 204	5 803 278	6 551 589	6 444 828	11	6 789 432	17

[a] Using IPCC 1995 GWPs, with a time-horizon of 100 years. Figures from tables C.1, C.3, C.4, C.5.1, C.5.2, and C.5.3 were used as the starting point for these projections. Only gases and sources that were projected are included.

[b] Differences in 1990 levels between inventories and projections are, for example, due to revisions of inventories, rounding, and temperature adjustments for the projection base level (Denmark, Netherlands, Sweden and Switzerland). Inventory figures are from table B.1.

[c] All Parties reported their last inventory for 1996, with the exception of Romania and Spain, whose most recent reported inventories were for 1994 and 1995, respectively, and Japan, whose last complete inventory was for 1995.

[d] Romania provided projections for the year 1995. Aggregate GHG emissions were projected to be 164,072 Gg in 1995, which corresponds to a decrease of 38 per cent relative to the base year.

[e] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

[f] The estimate for 2020 does not include emissions of HFCs, PFCs, or SF_6 as they were not reported for 2020.

Table C.6. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
528 810	29	607 120	48	AUS
				AUT
				BEL
-9 252	18	766 544	35	CAN
194 131	-0			CZE
60 942	-23			DNK
(67 790) -	3-4	(60 227) -	8	FIN
(67 900)		(60 607)		
476 805	0	(520 519) -	10 - 30	FRA
		(616 961)		
979 403	-19	968 083	-20	DEU
				GRE
				HUN
66 454	17			IRE
1 424 806	20			JPN
20 139	-44	22 608	-37	LAT
				MON
235 642	6	257 658	15	NLD
84 044	9	92 279	20	NZL
63 611	17	62 112	14	NOR
				POL
204 134	-23			ROM
66 975	-8			SLO
361 959	20			ESP
74 996	10			SWE
53 235	-5			CHE
(676 671 - 681	-6	754 593	-4	GBR
7 134 036	23	7 324 668	26	USA

Figure C.6.

Percentage change in projected emissions of all greenhouse gases for all sectors, excluding land-use change and forestry, in 2000, 2005 and 2010, relative to the base year

Table C.7. Projected anthropogenic net emissions of all greenhouse gases, including land-use change and forestry, until 2020 (Gigagrams, CO_2 equivalent)[a]

	Base level (1990)[b]			Projection and percentage deviation relative to the projection base level			
	Inventory	Projection	Last reported inventory[c]	2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	474 529	387 890	482 101	434 800	12	466 605	20
Austria[d]	63 971		67 923				
Belgium	137 219	135 538	150 740	143 697	6	151 545	12
Canada[d]	554 099		642 374				
Czech Republic		191 356	149 510	156 402	-18	173 548	-9
Denmark		78 478	93 093	70 511	-10	66 016	-16
Finland		41 046		(52 660) - (57 660)	28-40		
France	527 136	439 742	521 022	388 293	-12		
Germany[d]	1 179 107		1 055 074				
Greece							
Hungary			75 199				
Ireland		51 701	53 225	53 045	3	55 856	8
Japan	1 153 543	1 107 377	1 272 606				
Latvia		24 835	3 744				
Monaco							
Netherlands	215 607	221 813	241 371	217 460	-2	224 970	1
New Zealand	51 186	56 247	58 137	59 207	5	59 982	7
Norway	45 474	45 115	41 292	49 279	9	50 157	11
Poland			393 999				
Romania[e]	261 954	261 954	157 436	163 450	-38	166 658	-36
Slovakia		68 738	50 187	50 613	-26		
Spain		272 394		307 893	13		
Sweden[f]		34 225	40 427	42 447	24	47 919	40
Switzerland		51 429	48 724	47 236	-8	47 627	-7
United Kingdom	778 057	731 694	728 118	650 172	-11	688 508	-6
United States of America	4 856 004	5 345 028	5 786 906	6 034 236	13	6 386 172	19

[a] Estimates based on IPCC 1995 GWPs, with a time-horizon of 100 years. Figures from tables C.6 and C.2 were used as the starting point for these projections.

[b] Differences in 1990 levels between inventories and projections are, for example, due to revisions of inventories, rounding and temperature adjustments for the projection base level (Denmark, Netherlands, Sweden and Switzerland). Inventory figures are from tables B.2. and B.8.

[c] All Parties reported their last inventory for 1996, with the exception of Romania and Spain whose last inventories were for 1994 and 1995 respectively, and Japan whose last complete inventory was for 1995.

[d] Austria, Canada and Germany did not present projections in the *land-use change and forestry* subcategory and therefore they were not included here.

[e] Romania provided projections for the year 1995. Aggregate GHG emissions were projected to be 145,584 Gg in 1995 which corresponds to a decrease of 44 per cent relative to the base year.

[f] Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995.

Table C.7. (continued)

Projection and percentage deviation relative to the projection base level				
2010		**2020**		
(Gg)	**(%)**	**(Gg)**	**(%)**	
497 310	28	574 320	48	AUS
				AUT
				BEL
				CAN
189 031	-1			CZE
58 879	-25			DNK
(45 900)-	12-29	(33 227) -	-19-51	FIN
(52 790)		(62 147)		
411 900	-6			FRA
				DEU
				GRE
				HUN
56 764	10			IRE
1 368 995	24			JPN
6 269	-75	9 978	-60	LAT
				MON
233 942	5	255 928	15	NLD
62 836	12	60 625	8	NZL
48 811	8	46 412	3	NOR
				POL
177 181	-32			ROM
59 018	-14			SLO
332 989	22			ESP
52 996	55			SWE
48 135	-6			CHE
683 549	-7			GBR
6 734 442	26	7 324 668	37	USA

Figure C.7.

Percentage change in projected emissions of all greenhouse gases, including land-use change and forestry, in 2000, 2005 and 2010, relative to the base year

Table C.8. Projected CO_2 emissions from bunker fuels (Gigagrams)

	Base level (1990)[a]		Last reported inventory[a]	Projection and percentage deviation relative to the projection base level			
	Inventory	Projection		2000		2005	
	(Gg)	(Gg)	(Gg)	(Gg)	(%)	(Gg)	(%)
Australia	6 401		9 031				
Austria	890		1 380				
Belgium	15 726		18 308				
Canada	4 920		5 170				
Czech Republic			459				
Denmark		4 975	6 970	8 327	67	9 645	94
Finland	2 800		2 100				
France	15 488		18 154				
Germany	19 569		19 874				
Greece	10 423		12 432				
Hungary			560				
Ireland		1 172	1 605	1 465	25	1 414	21
Japan	30 806		32 420				
Latvia							
Monaco							
Netherlands	40 400		45 800				
New Zealand	2 384	2 413	2 580	2 645	10	3 378	40
Norway	1 988		3 112				
Poland			2 068				
Romania							
Slovakia							
Spain							
Sweden		5 400	4 899	5 900	9	6 300	17
Switzerland		2 100	2 500	2 700	29	3 000	43
United Kingdom	21 349		28 163				
United States of America	83 400		82 400				

[a] Inventory figures are from table B.9.

Table C.8. (continued)

Projection and percentage deviation relative to the projection base level				
2010		2020		
(Gg)	(%)	(Gg)	(%)	
				AUS
				AUT
				BEL
				CAN
				CZE
11 [illegible]	123	12 530	152	DNK
				FIN
				FRA
				DEU
				GRE
				HUN
1 253	7			IRE
				JPN
				LAT
				MON
				NLD
3 251	35	3 967	64	NZL
				NOR
				POL
				ROM
				SLO
				ESP
6 800	26			SWE
3 200	52			CHE
				GBR
				USA

Figure C.8.

Percentage change in projected CO_2 emissions from bunker fuels in 2000, 2005 and 2010, relative to the base year

Explanatory notes for tables C.1 to C.8

All references in parentheses are to the national communications. To the extent possible, the figures in the tables are taken from the "with measures" projections or from projection scenarios that best represent or reflect the implementation of measures; the notes below indicate where "with measures" projections were not provided or in some instances provide some additional information and/or further explanation. In the notes for table C.1 a description is given of the approach/scenarios used, which are applicable to data provided in tables C.2 through C.8, therefore notes for these Parties are not necessarily repeated in the notes for these tables.

Table C.1

Australia: The projections are for energy-related emissions only, taking into account the estimated impact of policies currently in place. Projections do not include effects of measures from the Commonwealth package of strengthened greenhouse gas measures announced in November 1997 (p. 69).

Austria: Four CO_2 scenarios were provided: (1) "without measures" scenario, (2) "current measures" scenario (assuming that only the currently implemented measures will continue to be effective), (3) "additional measures" scenario (assuming the start of a restructuring programme in 1997), and (4) "additional measures delayed" scenario (assuming a delayed start of a restructuring programme in 2000). Projections from the "current measures" scenario are presented in this table.

Belgium: The projection given in table C.1 is based on the "with measures" scenario. It includes a CO_2/energy tax, which is envisaged. One other scenario was supplied: "with envisaged measures", which incorporates supplementary measures. In addition, Belgium submitted projections from a temperature-adjusted base year.

Canada: The projection provided is a reference projection, based on the maintenance of current energy and related policy over the projection period (p.45).

Czech Republic: The "with measures" scenario represented here for the Czech Republic was called "base scenario" in the second national communication. No baseline projection was supplied. For 1995, CO_2 emissions of 129,000 Gg were projected. The CO_2 emissions for 1990 and 1995, as reported in the inventories, differ from those of the projection, because different calculation methodologies were used. These differences, however, do not exceed expected limits of confidence.

Denmark: Projections are based on general considerations, such as conservation of heat and electricity, use of energy efficient appliances and processes, and use of renewable energy.

Finland: The range of emissions as given in the table reflects two scenarios, one being the "energy market scenario" (EMS) without national or international measures to curb CO_2 emissions, and the other, the "energy policy scenario" (EPO), which assumes strengthening current control measures. Two different variants of strengthening the control measures are examined within the EPO scenario, one in which the use of wood and gas is increased, and one in which more nuclear power capacity is built.

France: Projections are from the "with measures" scenario; a range is given for 2020, however, to take account of the possible future composition of electricity production units and competition among European electric utilities.

Germany: The scenario presented in table C.1 is the "with measures scenario" / "Interministerial Working Group (IWG)-measures scenario" where CO_2 reduction measures are taken into account to the greatest possible extent. In addition, a "without measures scenario"/"reference scenario" was presented where efficiency improvements are the main factor to counter increases in CO_2 emissions. The latter leads to a reduction of CO_2 emissions by 3 per cent instead of 12 per cent under the scenario reported in the table.

Greece: Five projection scenarios were presented for energy-related CO_2 emissions: "business-as-usual", "conventional wisdom"; "forum"; "current trends"; and "effects of the Community Support Framework". The "conventional wisdom" scenario is in line with the Government's stated intention to restrict the increase in CO_2 emissions to 13 per cent in 2010 (p. 90) and is the scenario presented in this table.

Hungary: Four projection scenarios for fuel-related CO_2 emissions were provided: B-BAU, B-REF, S-MOD, and S-SEF. B-BAU and B-REF are "without measures" scenarios, with B-BAU assuming no change in energy efficiency indicators, and

B REF assuming substantial restructuring and improvement in energy intensity due to a decline in energy-intensive industries. S-MOD is a policy scenario which supposes moderate penetration of climate change mitigation measures. S-SEF supposes significant progress in the utilization of the theoretical energy-saving potential toward a sustainable energy future. The S-MOD can be regarded as the most probable outlook for the medium term (p. 54) and is the scenario presented in this table.

Ireland: Projections are based on forecast energy balances.

Japan: A "with measures" scenario was not presented as "studies are currently being conducted" (p. 91). Forecasts were made using the latest socio-economic data including "factors such as economic growth forecasts contained in the Ministry of Health and Welfare's estimate of future population, the report of the Economic Council, and the interim report of the Subcommittee for Industrial Structure Council" (p. 91). Under this framework a "standard scenario" was established based on past trends, not taking into consideration possible effects of policies and measures. Forecasts represent fiscal years (1 April to 31 March).

Latvia: A reference (without measures) and a mitigation (with measures) scenario were presented. The mitigation scenario is presented in this table.

Netherlands: The emission projections presented here are based on the trend scenario, which according to the second national communication "can be considered as an existing policy scenario" (p. 75). In addition, a "favourable CO_2 scenario" and a "without measures" scenario were presented. As the Energy Research Foundation (ECN) scenarios used in the second national communication only provide figures for 2020, estimates for the years 2005 and 2010 are based on linear interpolation between 2000 and 2020. The Netherlands projection figures are to be updated by the end of 1998 and should therefore be interpreted with caution.

New Zealand: The "with measures" scenario presented in the table is estimated to reduce the growth in energy-related CO_2 emissions by about 21.5 per cent below the "business as usual" scenario.

Norway: The emission projections presented in the table are based on a variant of the "reference alternative" scenario based on current policies. In addition, a "baseline reference scenario" was developed, which assumes stabilization of global CO_2 emissions at 1990 levels by means of a global CO_2 tax.

Poland: Three reference scenarios were presented to reflect the uncertainty concerning strategies for future development: the "baseline scenario" is based on political assumptions currently declared by authorities; the "scenario of chance" is based on the assumption of faster and more thorough structural changes than the baseline scenario; the "scenario of stagnation" is based on the assumed lack of public acceptance for structural change in the economy and related costs, with a lower rate of transformation than in the baseline scenario (p. 44). The "baseline scenario" is presented in this table. Also presented were the results of macroeconomic reduction scenarios (chance and baseline), assuming "moderate activities toward climate protection" (p. 45), which project for 2010 for the baseline scenario emissions of 469,000 Gg (as compared to 502,000 Gg for the regular baseline scenario in 2010 given in this table).

Romania: A reference scenario (without implementation of new measures) and two alternative scenarios, a low scenario (low restructuring and modernization of industry) and a high scenario (high implementation of all mitigation measures), were provided for all relevant sectors of CO_2 emissions (fuel combustion, industrial processes, waste). Projection data for the high scenario are given in this table. The low scenario leads to a reduction of total CO_2 emissions by 19 per cent instead of 23 per cent under the scenario presented in this table by the year 2000.

Slovakia: Slovakia did not present a "with measures" scenario. The ranges of emissions given here reflect scenarios 2 and 3. Some of the measures indicated under the scenario have not been implemented. (p. 50).

Spain: Projections based on current tendencies taking into account policies and measures in force.

Sweden: Sweden reported 1995 rather than 1990 as the base level for projections. All variations from the base level are thus given in relation to 1995. The Swedish forecast assumes that the estimation of future additional emissions, resulting from an increased use of electricity, is based on an emission factor that "on average is equivalent to emissions for natural gas combined cycle plants" (p. 123).

Switzerland: The projection for the year 2000 given in the table results from a scenario with "implemented measures". Bunker fuel emissions were deducted from the total CO_2 emission level. A second scenario was developed with "measures under consideration". Under this scenario, a 10 per cent reduction of emissions would be reached as compared to the 3 per cent

reduction under the "implemented measures" scenario. The CO_2 emissions exclude emissions arising from the generation of electricity which is subsequently exported.

United Kingdom: Land-use change and forestry figures were deducted from the summary CO_2 figure given in the second national communication. The figures given in the national communication represent the mid point of the central scenarios in the United Kingdom Energy Paper 65. (p. 28)

United States of America: The projection provided is the "1997 Climate Action Report (1997 CAR)" projection. The projection integrates an analysis of individual actions described in chapter three of the second national communication and revised forecasts of economic growth, energy prices, programme funding, and regulatory developments (p. 110).

Table C.2

Australia: Projections only include net changes in forest and other woody biomass, while the inventory estimates include removals due to pasture improvement as well. Estimates for projected removals from "agriculture" were given for 2000 to 2020 but not included in this table.

Denmark: Projections have been based on establishment of new forests through afforestation. Rough approximations have been made taking into account the non-linear pattern of CO_2 uptake over a 70-150 year period.

Finland: The emissions for land-use change and forestry include emissions and uptakes from wetland drainage and peat extraction. The range of emissions given for Finland results from the two scenarios given in the national communication.

Hungary: Several scenarios (baseline and four afforestation) were mentioned, but estimates in terms of CO_2 sequestration were not provided. It was mentioned that the current afforestation programme, which was launched in 1991, has the aim to afforest 150,000 hectares by 2000.

Ireland: Projections calculated on the basis of estimates of future plantings, drawing on the national plans for forestry.

Japan: Forecasts were "based upon factors such as the estimations of deforestation and forest area set out in the Basic Plan for Forestry Resources and Long-Range Demand and Supply Projection for Important Forest Products" (p. 93).

Netherlands: The projection figures are to be updated by the end of 1998 and should therefore be interpreted with caution.

New Zealand: Three scenarios were reported on the basis of different planting strategies. The "central estimate of new planting post-1997" is given in the table.

Norway: Three scenarios are presented: "maximum", "best estimate" and "minimum". The figures given in the table correspond to the "best estimate" scenario.

Romania: A reference scenario and two alternative scenarios, a low scenario and a high scenario, were provided for CO_2 sinks from the land-use change and forestry sector. The scenarios consider the impact of tree species composition change, afforestation and non-forest lands, and the increasing of the existing carbon stocks. The underlying option for the with-measures scenarios are: increase of surfaces occupied by forests and forest management. High scenario data are presented here. The low scenario leads to an increase of CO_2 sinks by 615 per cent instead of 688 per cent under the scenario presented in this table by the year 2000.

Slovakia: Projections were based on an analysis of the impact of measures to be applied (tree species composition change, afforestation of non-forest lands and protection of existing carbon stock in forests affected by emissions) listing three different scenarios. Figures presented correspond to the medium scenario.

Spain: The estimate given by the Party is an annual average value for a 20 year period.

United Kingdom: The emissions for land-use change and forestry include emissions and uptakes from wetland drainage and peat extraction.

Table C.3

Australia: Some sector estimates were provided in CO_2 equivalent aggregated for all GHGs. The proportion of CH_4 contribution to certain sectors (fugitive fuel emissions, industrial processes, waste) was used to calculate total CH_4 projection estimates in this table. Estimates do not include emissions from land-use change and forestry.

Austria: A "certain reduction" of CH_4 emissions beyond 2000 is expected (p. 146).

Denmark: Projections are based on expected effects due to policies in the agriculture and waste sectors.

Ireland: Projections are based on assumptions regarding national animal herds. For CH_4 no significant changes in animal numbers were assumed; CH_4 projections are therefore subject to considerable uncertainty. If account is taken of developments arising from the reform of the EU common agricultural policy, future emissions would be below those indicated in the present projections.

Japan: A "with measures" scenario was not presented as "studies are currently being conducted" (p. 91). Estimates are from a "standard scenario" based upon past trends of the principal sources of emissions.

Netherlands: The projection is based on the National Environmental Policy Plan (NEPP2) and the Second Memorandum on Energy Conservation (SMEC) policies with the "European renaissance" scenario with high prices, "ER High", as basic scenario. The value for 2005 has been interpolated. The projection figures are to be updated by the end of 1998, and should therefore be interpreted with caution.

Romania: A reference scenario and two alternative scenarios, a low scenario and a high scenario, were provided for all relevant CH_4 emission sectors (fuel combustion, fugitive fuel emissions, industrial processes, agriculture, waste). Projection data of the high scenario are presented here. The low scenario leads to a reduction of total CH_4 emissions by 42 per cent instead of 43 per cent under the scenario presented in this table by the year 2000.

Slovakia: Slovakia produced two scenarios for CH_4, scenario 1, which can be taken as baseline, and scenario 3. As not all measures in scenario 3 are under way, the range of both scenarios is given here.

Table C.4

Australia: Only aggregate estimates for industrial processes for all GHGs in CO_2 equivalent were provided. The proportion of N_2O contribution to total industrial processes emissions in 1995 was used to calculate total N_2O projection estimates in this table. Estimates do not include emissions from land-use change and forestry.

Austria: Reliable projections for 2000 and beyond could not be presented due to revision of emission factors for emission estimates (p. 94).

Denmark: Projections are based on the expected effects of Danish initiatives to reduce the use of commercial fertilizer.

Ireland: Projections are based on assumptions regarding national animal herds. For N_2O no significant changes in animal numbers were assumed; N_2O projections are therefore subject to considerable uncertainty. If account is taken of developments arising from the reform of the EU common agricultural policy, and recommendations for the use of fertilizer, future emissions would be below those indicated in the present projections.

Japan: A "with measures" scenario was not presented as "studies are currently being conducted" (p. 91). Estimates are from a "standard scenario" based upon past trends of the principal sources of emissions.

Netherlands: The projection of nitrous oxide emissions is based on existing policies, on the assumption that these policies remain unchanged after 2000, with the "European renaissance" scenario with high prices as basic scenario (p.77). Recent developments in manure practices in the agricultural sector could add an additional 3.5 Gg emissions per annum from 2000 onwards. The value for 2005 has been interpolated. The evaluation of emissions was undertaken on the basis of actual emissions (p. 78- 79). The projection figures are to be updated by the end of 1998 and should therefore be interpreted with caution.

Romania: A reference scenario and two alternative scenarios, a low scenario and a high scenario, were provided for all relevant N_2O emission sectors (fuel combustion, industrial processes, agriculture). Projection data of the high scenario are presented here.

The low scenario leads to a reduction of total N_2O emissions by 62 per cent instead of 63 per cent under the scenario presented in this table by the year 2000.

Slovakia: In the second national communication, two scenarios for N_2O were produced: scenario 1, which can be taken as baseline, and scenario 3. As not all measures in scenario 3 are under way, the range of both scenarios is given here.

Table C.5.1-3

With the exception of Canada, the Netherlands and the United Kingdom, which projected actual emissions, Parties did not express clearly whether HFC emissions projected are potential or actual. Several Parties that did not present projections for HFCs, PFCs and SF_6 stated that they had not been able to establish a comprehensive inventory of these gases and that work was ongoing.

Netherlands: The projection of emissions is based on the "European renaissance" scenario with high prices. The reference scenario of the projections is based on the assumption that the Montreal Protocol and its subsequent amendments is fully implemented (p. 78). The projection figures are to be updated by the end of 1998 and should therefore be interpreted with caution.

Slovakia: Slovakia noted that it does not use or produce these products.

Switzerland: Table C.5.1: very rapid growth rates are anticipated in certain applications: 5-30 per cent in refrigeration and airconditioning, 3-5 per cent in insulation foam, 100 per cent in aerosol propellants (p. 87). Table C.5.2: consumption in the solvent sector is expected to increase at a rate of 10-50 per cent per annum. PFC emissions in the metal industry (aluminium) will decline, as plans exist to stop production in Switzerland (p. 87). Table C.5.3: the information available is insufficient to define a trend (p. 87).

United States of America: This Party presented projections of HFCs, PFCs and SF_6 together (p. 116), expressed in terms of CO_2 equivalent. The secretariat was not able to separate those emissions. The figures presented, in gigagrams of CO_2 equivalent, are:

Base level (1990)	1995	2000	2005	2010	2020
Projection (Gg)	Inventory (Gg)	(Gg)	(Gg)	(Gg)	(Gg)
87 984	135 790	153 720	252 940	333 606	486 780

The growth in baseline emissions of HFCs and PFCs is beginning now and can be expected to continue through 2000 and beyond (p.116).

Table C.6

Austria: As Austria did not present projections for N_2O and its projection for CH_4 is only for the year 2000, a figure for all greenhouse gases is not presented in this table to ensure consistency among reporting Parties.

Greece: As only CO_2 projections were provided, a figure for all greenhouse gases is not presented in this table to ensure consistency among reporting Parties.

Hungary: As only CO_2 projections were provided, a figure for all greenhouse gases is not presented in this table to ensure consistency among reporting Parties.

Monaco: No projections were presented.

Netherlands: The projections figures are to be updated by the end of 1998 and should therefore be interpreted with caution.

Poland: As only CO_2 projections were provided, a figure for all greenhouse gases is not presented in this table to ensure consistency among reporting Parties.

Romania: A reference scenario and two alternative scenarios, a low scenario and a high scenario, were provided for aggregate GHG emissions using IPCC 1994 GWP. For consistency purposes, the secretariat converted these estimates using IPCC 1995 GWP. Projection data of the high scenario are presented here. The low scenario leads to a reduction of total GHG emissions by 26 per cent instead of 30 per cent under the scenario presented in this table by the year 2000.

Slovakia: The Slovakian aggregated projections presented here are taken from the "medium scenario". They include CO_2, CH_4 and N_2O emissions only.

Table C.7

It should be noted that as the aggregation of sources and sinks commonly leads to lower aggregate emissions, the uncertainty of these figures is increased as a consequence of the higher uncertainty associated with land-use change and forestry estimates.

Table C.8

Denmark and New Zealand: Information on the share of air and marine bunker emissions in projections was also given in the national communication.

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